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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Stories of the Week

'Tis reported that a stranger in New York City asked a pair of teen-agers directions to the Empire State building.

"Keep going straight ahead on this street," came the answer. "You can't miss it. It's right across from the record shop."

Drapes and venetian blinds of a college fraternity house were out for cleaning. The windows were naked, indeed. Also, occasionally, a careless boy or two. From a next-door sorority house came this note:

"Please refrain from parading in front of your windows. We are not interested in studying male anatomy."

To this chit, the fraternity brothers replied (also via written note):

"Girls, the course is optional."

Here's a shrewder-than-he-knew child's answer to a history examination query.

Q.: "Why did the Puritans emigrate to America?"

A.: "To worship their own religion and make others do likewise."

Gags of the Week

Sam Goldwyn was dissatisfied with a deathbed scene.

"Looka here," he exploded, "you gotta put more *life* into your dying."

What can one give the man who has everything?

Answer:

Penicillin.

How to Assuage the Grief

Those who "also ran" in competition for a promotion can be turned into real assets to an organization by a company that knows how to do it, according to Virgil K. Rowland of the Detroit Edison Co.

"In some companies any executive who makes a pitch for a higher vacancy, and fails to receive the promotion, decides he is automatically worthless to the company and gets out immediately," Rowland reports.

"This is a sad commentary on

(Concluded on Page 8, Col. 1)

ARI Certified Equipment To Bear Seal

WASHINGTON, D. C.—A special emblem should be displayed on most of the unitary air conditioning equipment shipped by manufacturers after Jan. 1, 1959, under the certification program jointly proposed last May by the Unitary Air Conditioner Section of the Air-Conditioning & Refrigeration Institute and the National Warm Air Heating & Air Conditioning Association, according to ARI.

The seal states that the unit to which it is affixed has been certified as to cooling capacity rating and complies with ARI Standard 210 (Unitary Air Conditioners).

ARI said decals and reproduction proofs of the seal "already have been sent to a number of the score of com-

(Concluded on Page 4, Col. 5)

Decatur Plant To Produce York Cooling Equipment

CHICAGO—One of the two plants of the Marvel-Schebler Products Div. of Borg-Warner Corp. at Decatur, Ill. is being converted to the manufacture of air conditioning and refrigeration equipment, it was announced here.

This plant, formerly known as the Transmission Dept., now has become a part of the corporation's York Div. and has been renamed the Decatur Works of the York Div. of Borg-Warner.

The York Div. executive headquarters will continue in York, Pa., with the management of York's Decatur operation headed by S. S. Meadows as vice president of the York Div. and general manager of the new Decatur Works.

"The products of the York Decatur Works will initially include a brand new line of room air conditioners with cooling capacity ranging from 6,000 to 17,500 B.t.u. per hour," it was stated.

"In addition to this line of

(Concluded on Page 4, Col. 1)

Richard Lewin Named Lewin-Mathes Pres.

ST. LOUIS — Richard H. Lewin of St. Louis has been appointed president of the Lewin-Mathes Co., Div. of Cerro de Pasco Corp., Robert P. Koenig, Cerro president, announced.

Lewin succeeds the late Felix S. Dreyer, whose death occurred Oct. 8. Lewin was formerly executive vice president of Lewin-Mathes and is a director of Cerro de Pasco.

RACCA Convention Sets Stage for Better Teamwork, Stepped-Up Association Activity

Frigidaire Bows 1959 Room Units

DAYTON — New dry-cooling and extra-quiet operation are features of 1959 Frigidaire vertical and horizontal room air conditioners, according to Herman F. Lehman, General Motors vice president and head of the Frigidaire Div.

Eleven basic models make up the line—nine vertical models 15¾ in. deep and two "extra-capacity" horizontal models. Announced cooling capacities range from 6,500 to 16,500 B.t.u.h.

Frigidaire is also currently introducing 11 new refrigerators including two "Frost-Proof" combinations with frostless freezing systems, six upright and chest food freezers, and a nine-model electric range line featuring a new oven that pulls out of the cabinet for easy cleaning.

Designated as the "Pull 'N Clean" oven, this latter development is featured in four of five 40-in. ranges. The line also has four 30-in. models.

Lehman announced that two new "Lone Star" air conditioning units, in the "Super" and

(Concluded on Page 6, Col. 1)

Cooperation with Other Trade Groups Evident

COLORADO SPRINGS, Colo. —With improved teamwork as the convention theme, the annual convention of the Refrigeration & Air Conditioning Contractors Association (RACCA) here last week set the stage for stepped-up association activity in the fields of manufacturers' policies, labor relations, and codes of ethics and other standards for the conduct of the contractor's business in the area in which he works.

The presence at the convention of Horace E. Wetzell, president, Mechanical Contractors Association of America (MCAA), and John M. Rhoades, president, National Association of Plumbing Contractors (NAPC), was evidence that this teamwork is being extended to other associations with mutual interests. It also heightened speculation that should the proposed merger of MCAA and NAPC be consummated, RACCA will be invited to merge with the new association that will emerge.

ARI Spokesman Present

Also present and speaking briefly to the group was John Gilbreath, Typhoon Corp. executive appearing as the personal representative of Don Petrone, president of Air-Conditioning & Refrigeration Institute (ARI), association of manufacturers.

This coupled with the fact that the RACCA trade relations committee, headed by George Howe of Chicago, has had some important meetings with an ARI committee recently on the matter of warranties and other manufacturers' practices problems, is indicative that effort is being made to resolve some of the problems which many contractors feel are plaguing the industry.

Walling Re-Elected Pres.

Charles L. Walling, National Refrigeration Sales of Los Angeles, was re-elected president of RACCA for the coming year.

Other officers are T. C. Alexander, T. C. Alexander Co., Denver, first vice president; Don Kissell, Kissell Refrigeration Corp., Los Angeles, second vice president; Robert Lafferty, Hill-York Corp., Miami, recording secretary; Harvey Hottel, Harvey Hottel, Inc., Silver Spring, Md., treasurer; R. B. Garlock, Garlock Insulating Co., Lansing, Mich., sergeant-at-arms; and William Moody, Barber, Inc., Houston, immediate past president.

Directors of the organization, in addition to the above, are: Lee Quinn, L. J. Quinn Co., Cincinnati; Frank Le Grande,

(Continued on Page 25, Col. 1)

BEHIND PAGE ONE . . .

2 Firms Offer Leasing Plans

Typhoon Plan Covers Bldg. Cooling Systems

BROOKLYN — A lease plan designed to permit commercial and industrial establishments to reap the benefits of air conditioning without reducing working capital or credit available for other purposes has been announced by Typhoon Air Conditioning Co., Div. of Hupp Corp.

Under the plan, a business can get a complete air conditioning system especially designed for the particular building without investment in equipment or installation work, it was stated.

Typhoon initiated the plan as part of its 1959 sales program. The company introduced its 1959 line, which includes package units of 3 to 75-ton capacity, in September in an effort to promote fall and early winter installations.

Typhoon's nationwide plan, said to be one of the few plans available for air conditioning equipment, provides 2, 3, and

(Concluded on Page 4, Col. 2)

Mechanical Contractor Plans Broad Application

NEW YORK CITY—A new plan which will permit installation of complete air conditioning, heating, and ventilating systems in new or existing buildings without the investment of any capital was announced by Frank Hudik, president of Hudik-Ross, Inc., mechanical contractor, of New York City and Hackensack, N. J.

The plan "marks a broad new application of the leasing principle which has demonstrated many practical and financial advantages throughout the business world," the announcement said.

To be known as the Hudik-Ross Leasing Plan, it will be applicable to mechanical contracts in virtually every type of structure, including office buildings, industrial plants, shopping centers, hotels, hospitals, and apartment houses.

Entire heating and ventilating

(Concluded on Page 4, Col. 4)

Reentered as second class matter October 3, 1936, at the post office at Detroit, Mich., under the Act of March 3, 1879.

Joint Industry Subcommittee Reports Progress on 'Temporary Heat' Agreement Revision, Plan To Include Refrigeration

CHICAGO — At its initial meeting held here recently, the Joint Industry Subcommittee to study and revise the 34-year-old Pittsburgh "temporary heat" agreement made progress on a draft of a new agreement. The subcommittee will meet again in Washington, D. C. Nov. 6-7 where it will continue the revision.

Meanwhile, contractor organizations have been urged to solicit case histories of on-the-job incidents involving temporary heating and cooling situations, so that necessary changes can be incorporated into the new agreement.

Leo A. Green, Pittsburgh, United Association, was elected chairman and Francis X. McCartin, Chicago, UA, was elected secretary of the subcommittee.

Attending the meeting were two representatives of the National Association of Plumbing Contractors, three from the Mechanical Contractors Association, as well as five from the UA.

The revised agreement is expected to continue to protect contractors on heating contracts and to extend similar protection to cooling and refrigeration installations not now covered by the existing agreement, according to NAPC.

Anderson-Snow Corp. To Make Standard, Custom-Built Coils

CHICAGO—Russell E. Anderson, Norman Snow, and Ray Rutkowski announce the formation of Anderson-Snow Corp. for the manufacture of standard as well as custom built coils for special applications.

The new line will feature heating coils, cooling coils, and air handling equipment for use in heating, ventilating, refrigeration, and air conditioning systems.

All three principals are well known in the field and have had extensive experience in the manufacture of these components, the announcement pointed out.

The plant is located at 3863 N. Milwaukee Ave., Chicago 34, Ill.

'Big 3' Domestic Copper Producers Boost Prices to 27½¢ per Pound

NEW YORK CITY—The "big three" domestic copper producers recently boosted their prices of refined copper 1 cent a pound to 27½ cents.

This quotation matched the price of custom smelters, which had been raised ½ cent Oct. 8 on top of a similar increase the week before to 27. Brass mills, whose prices are based on the copper price of the major producers, started to raise quotations for their products accordingly.

Phelps Dodge Corp. was the first producer to announce the advance, effective Oct. 13. Kennecott Copper Corp. soon followed suit, effective the same day. Anaconda Co., third member of the big three producers, then took similar action, effective the next day.

This was the second increase in the U. S. producer price since the quotation dropped to its recession low of 25 cents last Jan. 13.

Demand for copper has been fluorishing the last few weeks, both for consumption and for rebuilding depleted inventories, it was reported. Strikes in copper mines in northern Rhodesia, Canada, and New Mexico have sharply reduced world production and spurred precautionary buying, particularly abroad.

Houston Requires $5 Fee for Conditioners Up to 5-ton Capacity

HOUSTON, Texas — Among changes included in this city's new building code is the requirement of a $5 minimum fee for installation of any air conditioner up to 5-ton capacity.

There are graduated fees for additional air conditioning capacities.

This change, city officials pointed out, will affect many homeowners. Formerly, homeowners have not been required to pay a permit fee for air conditioners.

Robert W. Nelson Dies On Way to Hospital

LOUISVILLE, Ky. — Robert W. Nelson, 48-year-old vice president of American Air Filter Co. here, stricken with a heart attack Oct. 9 at his desk, died en route to the hospital.

He had not complained of feeling ill, business associates said.

Since 1956, Nelson had been director of the firm's central administrative staff. He formerly was executive assistant to the director of sales. He was a past president of the Air Moving & Conditioning Association and a member of the American Society of Heating & Air-Conditioning Engineers.

Paul Diserens Dies, Was 76 Years Old

SUMMIT, N. J.—Paul Diserens, 76, inventor, consultant, and retired director of research development for Worthington Corp., died recently at his home here.

He had retired in 1953 after being with the company for 44 years. The author of many papers on engineering problems, he was a member of the American Society of Refrigerating Engineers and other groups.

York Plant--

(Concluded from Page 1, Col. 2)

cooling units, the Decatur Works of York will also manufacture a variety of window and through-the-wall types of heat pumps which cool and dehumidify in the summer and will heat when heat is required.

"The plant is also being tooled to manufacture a wide line of hermetic compressors for room air conditioners and other air conditioning and refrigeration products.

"The company will continue to manufacture other high speed compressors for automotive air conditioner application."

Meadows joined Borg-Warner in 1953 as vice president and manager of the Marvel-Schebler transmission department at Decatur. He was formerly works manager of the Detroit Transmission Div. of General Motors.

Typhoon Leasing Plan--

(Concluded from Page 1, Col. 3)

5-year leases with an option to renew at the end of the lease.

According to John Gilbreath, Typhoon's vice president in charge of sales, who announced the plan, additional working capital that can be made available by leasing is the key to higher profits in many companies.

"With most companies reporting net profits of 15 to 40% on working capital, the hidden cost of losing use of capital, even for essential investments such as air conditioning, may run high," Gilbreath said.

"It's no wonder that leasing is becoming increasingly popular. Our own plan is designed to give commercial establishments the increased business, and industry the increased productivity made possible by air conditioning without adding to the burden on working capital."

In addition to conservation of capital and credit, leasing offers a tax advantage because money paid out is charged off immediately instead of under a regular depreciation schedule based on equipment life, he added.

Gilbreath pointed out that leasing costs on equipment in commercial establishments are readily paid for by increased business which goes up an average of 20% in a newly air conditioned space.

Cost of leasing equipment usually requires less than a 3% increase in sales, according to the announcement. Industrial productivity goes up 22 to 28% in general manufacturing plants while an increase of only 2 to 5% is actually needed to pay leasing costs, it was stated.

Mechanical Contractor's Plan--

(Concluded from Page 1, Col. 4)

systems including piping, sheet metal, and electrical work, as well as complete central cooling systems, will be leased.

The company said it is prepared to provide mechanical installations under its lease plan anywhere in the northeast.

Under terms of the plan, Hudik-Ross will supply and install air conditioning, heating, and ventilating systems under a leasing agreement for a base period of from two to seven years, with unlimited renewal periods. The lease involves no initial cash outlay.

Citing a typical example, Hudik said that a five year lease plan for a $100,000 mechanical installation would call for a rental of about $2,000 a month, the first payment to be made upon completion of the job.

"Upon expiration of the agreement, the owner may renew the lease on a year-to-year basis at an annual rental amounting to 5% of the original contract price, or, in this instance, $5,000," it was explained. "After the initial leasing period, the owner may request an option to purchase the equipment.

"The purchase price is set at 10% of the original cost of the installation, where that cost was over $10,000. For smaller systems, the price is 12% of the original cost.

"The exact monthly rental will be based on three factors: the cost of the installation, the length of the lease, and the credit rating of the lessee.

"To the owner of an existing structure which is to be air conditioned, the plan means that the improvement can begin at once with no cash outlay. If the mechanical work is part of a larger modernization project, the capital required is reduced by the amount of the mechanical contract."

Hudik points out that this immediate availability has special significance where air conditioning has become a virtual competitive necessity.

Certification--

(Concluded from Page 1, Col. 2)

panies which have sent in their certification data."

While not all the companies producing unitary equipment have joined the certification program, ARI Managing Director Geo. S. Jones, Jr. said he believed that enough will have signed contracts and submitted data on their equipment to make the program effective Jan. 1, as planned.

"Under the program," it was explained, "manufacturers who enter into an agreement with ARI and who use the seal on units and in advertising and promotional material describing the equipment, agree that ARI may make 'random' tests of a large number of units each year through the facilities of an independent testing laboratory.

"Such units are to be purchased from field stock and will be representative of participating manufacturers.

"Another phase of the plan involves the testing of units on which complaints may be received from other manufacturers or the public as to alleged unrealistic cooling capacity claims.

"Certification of specific units may be withdrawn, ultimately, if they do not produce the claimed capacity, although the program calls for informing manufacturers of units which fail to meet the standard, and permitting them to bring units up to capacity claimed."

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by GENERAL ELECTRIC

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Ideally priced for the builder market and for the profitable modernization and replacement market. Smallest model takes only 28"x22" of floor space in vertical application. Horizontal-downflow combination can be installed either in downflow position or on either side in horizontal application. Entire line features quick-heating "Vertifin" heat exchanger—dependable safety features. Conventional high-pressure gun burner and other standard parts permit easy servicing and replacement. Two-tone gray, ultimate in smart design—handsome as a modern kitchen appliance. BTUH output: 84,000 to 168,000 upflow—84,000 to 112,000 combination horizontal-downflow. *Listed by Underwriters' Laboratories and approved by UL as conforming with the U.S. Department of Commerce Commercial Standard CS 195-57.*

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OPERATION UPTURN means General Electric will go all out to accelerate an upturn in business in 1958. It will help boost dealer sales and profits. So get in on the ground floor! For complete details of OPERATION UPTURN and a General Electric franchise, call your nearest General Electric distributor—listed in the yellow pages of your phone book—or mail coupon. General Electric Company, Air Conditioning Department, Tyler, Texas.

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General Electric Company ACD 19
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Frigidaire Lines for 1959--

(Concluded from Page 1)

"Deluxe" series, each with 12,400 B.t.u. of cooling capacity, have been especially designed for areas of the country with conditions of high heat and humidity. A new "Hi-Dri" control permits the unit to operate, drying the room air, even though the thermostat no longer calls for cooling.

"All Frigidaire models have a unique dry-cooling system that can remove up to a barrel of water from the air each week," the announcement said. "The secret lies in the expertly engineered, perfectly balanced cooling and dehumidification system. Heart of the operation is the Frigidaire 'Super Meter-Miser' compressor and deep-cold 'Dehumidi-Coil.'"

There also are two new "All Seasons" vertical room air conditioners, which provide reverse cycle heating and cooling.

The Imperial unit, rated at 10,100 B.t.u. cooling capacity, features automatic dehumidification, thermostatic controls, and automatic changeover from cooling to heating. The Deluxe "All Seasons" unit is of similar design but has a cooling capacity of 8,600 B.t.u.h.

Other new Frigidaire vertical room units include a 115-volt, 7.5-amp. Super model with 6,500 B.t.u. of cooling capacity; an 8,600 B.t.u. Super model; an 8,600 B.t.u. Deluxe model; 7,800 B.t.u., 115-volt, 9.9-amp. Imperial model; and a 10,100 B.t.u. Imperial model.

"Imperial vertical models combine smooth operating fans and a new sound-trap to hush the sound of flowing air and provide extra quiet operation," it was stated. "The internally suspended compressor construction smooths operation, even during starts and stops.

NEW trim Frigidaire vertical room air conditioner.

THIS 1959 Frigidaire 14.2-cu. ft. Frost-Proof refrigerator-freezer has many exciting features. There's no defrosting, not even in the freezer section, because frost never forms. Delicate lacework styling on door and base panels lends distinctive feminine touch. Storage facilities are scientifically designed, arranged, and sectionalized to eliminate searching, stretching, and bending.

"Thick fibrous glass filters are easy to inspect and replace. The filter slips into a tilt bin on vertical Imperial models and lifts out of the bottom of horizontal units. These filters are especially effective, screening out even tiny specks of lint, pollen, and dust. The room air is cleaned as many as eight times an hour.

"Three-way air control on all Imperial models cools an entire area without drafts or hot spots. Air doesn't short-circuit back into the unit. All Imperial and Deluxe units have air control dials to bring in fresh air or exhaust stale room air.

"Fresh outside air can be introduced into the room at the rate of 150 c.f.m. on Imperial and Deluxe vertical models; 200 c.f.m. on an Imperial horizontal model with 14,100 B.t.u. of cooling capacity, and up to 225 c.f.m. on a 16,500 B.t.u. capacity horizontal Imperial room unit.

"Imperial and Deluxe vertical models will exhaust air from the room at a rate of 100 c.f.m.; the larger Imperial horizontal units, 150 and 175 c.f.m."

"Frigidaire's versatile new units can be installed in nearly any window or room location—through-the-wall, under the window, or over the door. Also, they can be installed completely inside the room in standard or casement windows, or completely outside the window, permitting the window to open and close."

Suggested retail prices were announced as follows:

ROOM AIR CONDITIONERS

Super Models

*AS-100-92	$276.95
AS-100L-91	286.95
*AS-120-92	323.95

Deluxe Models

*AD-100-92	289.95
ADR-100-92	316.95
*AD-120-92	333.95

Imperial Models

AI-100M-91	306.95
*AI-100-92	338.95
AIR-100-92	378.95
*AI-150-92	389.95
*AI-200-92	449.95

†REFRIGERATORS

Super Models

SA-9-59	$199.95
SS-9-59	199.95
S-9-59	229.95

Deluxe Models

D-11-59	259.95
D-13-59	299.95
FD-104-59	359.95

Imperial Models

‡FI-123-59	429.95
‡FI-122-59	479.95
FFI-122-59	519.95

Cold Pantry Models

‡CP-144-59	629.95
FCP-144-59	669.95

Frost-Proof Models

‡FP-124-59	579.95
‡FP-142-59	699.95
FFP-142-59	739.95

FOOD FREEZERS

Upright Models

UFD-123-59	$329.95
UFD-150-59	389.95
UFI-150-59	439.95
UFD-200-59	529.95

Chest Models

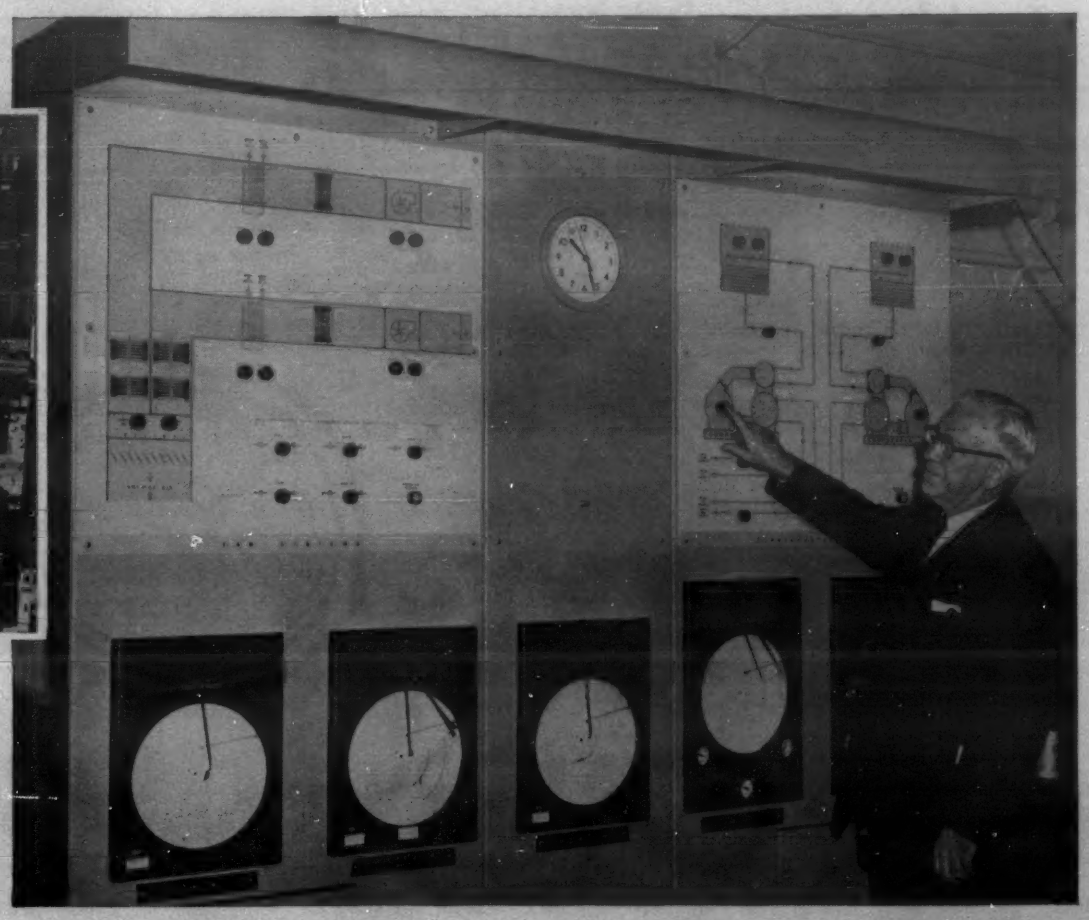
CFZ-125	379.95
CFZ-175	499.95

*Available in 208-volt models at prices shown.

†All refrigerator models available as right or left-hand door at prices shown above.

‡Available in Mayfair Pink, Sunny Yellow, Turquoise, Charcoal Gray, or Aztec Copper at prices shown.

ABOVE: 2,633 rooms—the top twenty-one floors of Chicago's Conrad Hilton Hotel—were recently air conditioned with a 1,600-ton, four-zone, high-pressure induction-unit system—believed to be the largest commercial installation in the world. The first four floors of public areas are cooled by existing package units and individual systems.



RIGHT: Harold M. Toombs, chief engineer of the Conrad Hilton, at a panel which controls the air conditioning. Touching a button, he starts one of the two 840-ton compressors in the refrigerating system that chills water for distribution to individual-room units. Right half of panel controls fans which send filtered, washed air to each room.

How to install central air conditioning in a hotel without disturbing guests

ABOVE: Panels, shown, control temperature of chilled water in each of four zones. Temperature can be adjusted manually 5°F. above or below a pre-set system temperature. Each zone consists of rooms with similar exposure conditions. Tenant can also adjust room temperature 5° above or below set zone temperature.

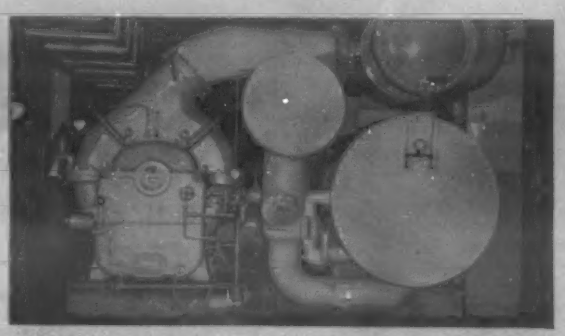
Chicago's 2,760-room Conrad Hilton adds "Freon"-charged, 1,600-ton system with no loss of room revenue

With carefully preplanned work schedules and prefabricated components, central air conditioning can be added to a hotel while near normal activities continue. An example is the recent installation of a York 1,600-ton central air conditioning system in Chicago's Conrad Hilton Hotel. 2,400 feet of reinforced concrete were pierced, and 3,400 induction units were installed in 2,633 rooms. It was all done without loss of room revenue and with minimum disturbance to the guests.

Room checkout time was moved to 8:00 A.M. At 8:30 contractors moved in, scheduled work was done in a room, and it was ready for occupancy by 5:00 P.M. Ductwork and piping components were prefabricated in an adjoining building in room-by-room sections. Each room installation was made in a few hours after drilling and electrical feeders, service outlets and telephone lines had been put in. Work took about 8 months and was completed 3 weeks ahead of schedule.

Heart of the system is two York 840-ton centrifugal compressors charged with Freon*-11 refrigerant. "Freon" was chosen because of its proven safety, performance and over-all economy. No maintenance problems have developed, and no "Freon" has been added since the system began operation. To assure the same trouble-free performance for your equipment, be sure you specify "Freon" refrigerants on every order. *E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division 1010, Wilmington 98, Delaware.*

ABOVE: Shown is induction unit in a penthouse suite which delivers tempered air to the room. Each unit takes 50-70 cfm of filtered, washed air at 9 psi. Chilled water passes through coils in each unit to cool and dehumidify this air. In winter, unit handles water heated by the building's existing steam system.



ABOVE: Shown is one of two 840-ton compressor-condenser-turbo chiller units manufactured by York. The two units chill a total of 5,500,000 gallons of water a day for distribution to 3,400 induction units in 2,633 rooms of the hotel. Each refrigerating system is charged with 2,000 lbs. of "Freon" refrigerant.

FREON® *premium quality* **refrigerants**

**Freon and combinations of Freon- or F- followed by numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon refrigerants.*

DUPONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

business practices today. The company may suffer a staggering loss of investment in talent in such cases.

"Sometimes their reactions and altered attitudes carry on down to their subordinates in a long chain of blighting effects."

Mr. Rowland has observed that "left-over" employes are happier in their organizations when they feel that a race for promotion has been run fairly, when they have positive evidence of recognition being given to their endeavors.

An opportunity missed one time can make possible the acceptance of a better opportunity at a later time.

Touchy subject—but important.

How To Write a Best Seller

In commercial literary circles there used to be a gag that the perfect title for a book would be "Lincoln's Doctor's Dog." (Almost all books about Lincoln, doctors, and dogs sell well.)

Current fiction trends indicate that novels about business and psychiatry are the craze. So, to the fellow who wants to write a best-seller, this title might be recommended:

"The Man on a Grey Flannel Couch."

Upon retiring from the Michigan Bell Telephone Co. after 41 years on the job, Joseph V. Bell recalled this incident as being most memorable.

An angry customer was switched to his line.

"Mr. Bell speaking," he intoned. "What can I do for you?"

"Oh, I didn't expect THE Mr. Bell Telephone. Sorry to bother YOU, sir."

Verse of the Week

Two ears and but a single tongue
By nature's laws to man belong;
The lesson she would teach is clear:
Repeat but half of what you hear.

Incidental Intelligence

In Bloomfield Hills, Michigan, a man was arrested on a charge of drunkenness and brought to a police station.

There he flipped his torso into the air, and "walked" all around the place on his hands. Case dismissed.

Aware that the British will line up for anything, the Bishop of Chelmsford hit upon an idea to fill his church on Sunday nights.

He suggested to his parishioners that they line up outside the church 30 minutes before services began—on the theory that many passers-by would join the queue just to find out what gives.

Immediately attendance increased 300%.

Inflation's Falseface

Over a period of years wages in the United States have risen for two reasons—(1) increased production, in which wages have shared, and (2) inflation. The first adds buying power. The second is an illusory gain, because inflation merely adds to paychecks dollars which have less buying power.

Let us suppose that a man due to retire at age 65 began work when he was 20. Let us grant, to simplify our problem, that he hadn't advanced in skills during these years. His money paid per hour now would be more than seven times what it was in 1910.

Had there been no inflation, however, his take-home pay would have risen to a little less than three times what it was in 1910.

Or, if we compare his present paycheck with those prevailing a quarter century ago, it is now two and one-half times as high as then.

Considerably more than half of this rise has been an illusory wage increase—caused by inflation, which has cut the worth of the dollar to 46 cents or less.

So, for nearly half a century, inflation has put more dollars into the paycheck than it has put into buying power.

Such extra dollars seem nice to have, and they look exactly like the other dollars. But these phony dollars really buy less than nothing.

Inflation, then, does not raise real wages. It only creates the illusion of well being—like whiskey. Inevitably comes a hang-over.

Thoughts for This Week

When you talk to your own people, bear in mind that their fears and aspirations involve them intimately in what you are saying; that they will slant, distort, or accept what you say on the basis of their opinion of you. The secret of acceptance as a leader lies in having established a reputation for sincere interest and friendliness, honest dealing, humility, and responsibility. Achieve this acceptance. Then look to your communications. You will find a rich reward.—WALLACE JAMIE.

You will not be sorry for hearing before judging, for thinking before speaking, for bridling an angry tongue, for stopping the ears of a talebearer, for disbelieving most of the ill reports, for being kind to the distressed, for being patient toward everybody, for doing good to all men, for being courteous to all.—*Megiddo Message.*

Love is the sunshine of the soul. Without it we get hard and sour and we never grow into what we could be. Love sweetens the bitterness of experience and softens the core of selfishness that is inherent in human nature.—FAITH FORSYTE.

Education has become the royal road to positions of power and prestige in American business and industry. — LLOYD WARNER.

An educated man is one who has finally discovered that there are some questions to which nobody has the answers.—*Texas Outlook.*

Training means learning the rules. Experience means learning the exceptions.—*Indianapolis Times.*

The amount of money in your bank account is not the true measure of your success. If you are honest, fair, tolerant, kindly, charitable of others and well behaved, you are a success, no matter how small your bank account.—*Mutual Moments.*

Get Paid Twice with

Now, every time you sell an Airtemp air conditioner, or furnace, you get paid twice—once at the time the sale is made and once by Airtemp with Airtemp's new Pay-Off Certificates.

How much are your Pay-Off Certificates worth? Well that depends on the kind of Airtemp equipment you sell. But here's the important point—you can use your Airtemp Pay-Off Certificates just like cash when you order new equipment.

In effect, this Double Pay-Off Plan boosts your mark-up. It helps you meet price competition *and still make a normal profit.* There are other reasons, too, why you make money with an Airtemp franchise. For example:

- Airtemp's trouble-free operation cuts service calls, lets you keep your initial sale profit.
- Airtemp's really complete line—297 models. You can satisfy any customer.
- The prestige of the Chrysler name and Chrysler's famous engineering.
- Sales, engineering, service and business-operation training at Chrysler Corporation Training Centers.
- Pre-tested merchandising aids and incentive plans. Factory advertising in your local market.

CHRYSLER

DO MORE BUSINESS WITH AIRTEMP—
THE FORWARD LOOK IN AIR CONDITIONING

Airtemp

AIRTEMP DIVISION, CHRYSLER CORPORATION
DEPT. AC-10-58, DAYTON 1, OHIO

Please send me full information on an Airtemp franchise.

NAME.....

ADDRESS.....

CITY.....*ZONE*.....*STATE*.....

How Small Business Can Keep Effective Records Without Added Personnel (2)

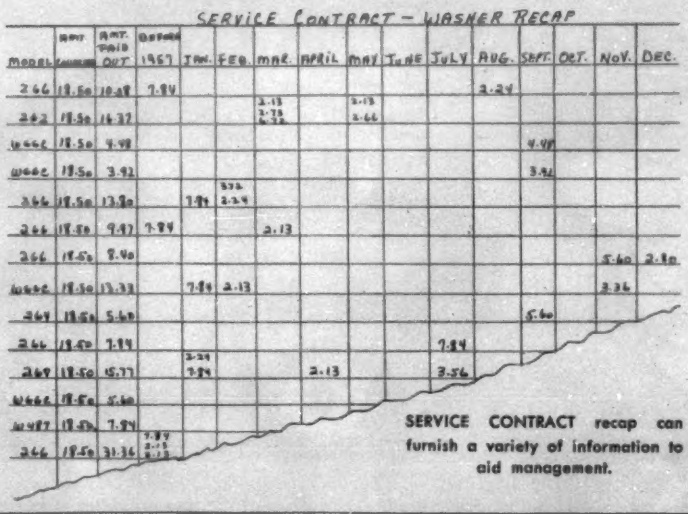
In this second instalment of an article that began in the Oct. 13 issue Richard Frank, Frank Refrigeration, continues his discussion of how the small firm can keep effective records without added personnel. The first instalment described Service Reports, Parts Order Blanks, Daily Work Sheets, and Daily Recaps.

Turning to calls made under contract, Frank explained, "We agree to maintain the service on a given product for one year from date of delivery. I believe the business that does not contract with others should set up some system so that at the end of a year they can tell how they did on their own sales.

"Once a month we get a list from the distributor, indicating the dealer who bought contract service, the model and serial number of the product under contract. This does not mean the product has been sold to the consumer, but only the dealer has this merchandise in his stock.

"We immediately make up a serial card showing only the serial number and the date. It is filed by serial number in the distributor's file. When the dealer sells the product to the consumer, he then fills out the Dealer Registration Card and mails it to us. This card has the model, serial, customer's name, address, and date delivered. Our service responsibility starts at the time we receive this card. We now staple this card to the serial card already in the file, which gives us a definite check.

"If the dealer does not send in this card, we start our warranty at the time we receive the serial card from the distributor. As the year progresses, and we take calls on products under our warranty, we post to the back of the serial card the date the call was taken, the trouble found, an the cost of the call. The actual cost is what we are interested in on this card.



SERVICE CONTRACT recap can furnish a variety of information to aid management.

"Now we can make a Service Contract Recap. This can be done quarterly, semiannually, or yearly. On the *Service Contract Recap,* we show the model, amount collected, amount paid out. By adding these two columns and figuring the overhead, we can easily determine if the price charge is adequate.

"In addition, we can determine the models giving more trouble than others, we can determine the months we can expect the greatest number of calls, and we can determine the percentages of nuisance calls. In fact, just about anything necessary can be taken from these Recaps. The amount of information you put on will determine the amount you can take off."

Frank then discussed the third category—keeping records of a storage air conditioner program or a shop repair program. "We will follow a storage air conditioner through, and from it you can also visualize how it can be done on other products.

"We use a claim check, which is made out in triplicate—one hard copy and two carbon

(Concluded on next page)

AIR CONDITIONER REPAIR

Bin No. 275 Claim No. 1776

Name Adams

Address 2910-29 Ave So. Date 12/8/58

Make Philco Model 85M Serial 21787

CHECK

ELECTRICAL		CABINET PARTS	
Wattage Draw 12 Amps	Grills	O.K.	
Thermostat O.K.	Knobs	O.K.	
On and Off Switch O.K.	Louvres	O.K.	
Fan Motor Replaced	Touch Up	O.K.	
Others	Fresh Air	O.K.	
	Pump Out	O.K.	

UNIT

Temperature of Incoming Air 87°

Temperature of Exhaust Air 65°

Gas Charge O.K.

Steam yes

Noise None

Condenser Fins O.K.

Drain Hose O.K.

Filter New

FRONT and back of Air Conditioner Repair Card, shown above and below, respectively, helps keep track of data needed to administer air conditioner storage plan.

PARTS NEEDED

	NET COST	LIST
1. Fan Motor	$27.50	$37.75
2.		
3.		
4.		
5.		
TOTAL		$37.75

LABOR

DATE	SERVICE MAN	HOURS
3/9/58	1-hr.	$2.44
3/11/58	1-hr.	$1.22
TOTAL		$3.66

COSTS

Removal	$4.48	Installation	$5.08
Overhead	$3.66	Parts	37.75
Insurance	$1.75	Complete Total	$53.02
Others Filter .60			

Record Keeping--

(Concluded from preceding page)

copies. The hard copy goes with the air conditioner, the second copy is given to the customer when the air conditioner is removed from the home, and the third copy goes with the serviceman's report into the office.

"Let me point out, it is vitally important that the claim check be made out completely with model, serial, and any complaint the customer might have that should be given special attention — such as vibration, cracked grill, etc.

"When the men pick up the air conditioner, we provide a separate box for all the installation material and the decorative front. On the box is written the claim number, and these boxes are stored in a separate area. The boxes are stacked so that the numbers run consecutively. This makes it easy to find when re-installing. At the time of removal, the air conditioners are put in the bins without regard for number or position.

"After the serviceman removes the air conditioner, and the billing gets to the office, the office makes out an *Air Conditioner Repair Card*. They record on the card the cost of removing, and if there are notations as to repair this is also indicated on the card. Sometime during the winter the men will start to work on the storage air conditioner.

"When they remove an air conditioner from the warehouse, they will get from the office the *Repair Card* for the customer owning the air conditioner. On this card they will check off the various items as indicated. On the back of the card they will list any parts used, part and part number. Each man will record the time spent on the air conditioner, and the total shop labor will be tabulated.

"After the air conditioner has been thoroughly tested, it is wrapped completely and replaced in the warehouse. At this time the bin number, into which the air conditioner is put, is recarded in the proper place on the Repair Card, also the claim number, and then the card is returned to the office.

"After the air conditioner is re-installed in the spring and the installation cost is determined and recorded on the card, you can figure your actual cost by adding the various factors together. We use this basic *Repair Card* on many products that go through our shop, and find it works well in determining our costs."

Frank strongly contradicts the general opinion of small shops that the keeping of records cost more than the benefit of the information received, and he showed examples of his own records to support his opinion.

(The End)

Flexonics Appoints Edward A. Malling

MAYWOOD, Ill.—Edward A. Malling has been appointed vice president of marketing at Flexonics Corp., according to John F. P. Farrar, president.

Malling was manager of marketing for the Specialty Electronics Components Dept. of General Electric Co., resigning after 23 years with G-E to accept the Flexonics position.

The position of vice president of marketing is a new one at Flexonics. The job was created as part of the new organization plan which Flexonics has been putting into effect during 1958.

They'll Do It Every Time

by Jimmy Hatlo

Reverse Cycle Air Conditioning— Study In Perpetual Motion

Nearest thing to perpetual motion in our time is the "heat pump." It gathers energy from air, earth, or water. From these "free" sources it utilizes electricity so efficiently that it can heat or cool to a far greater extent than the cost of the electrical energy it employs.

THEORETICALLY, that is.

How does this something-from-nothing device work? Let's try this example:

Sealed against an open window a household refrigerator could become a small-scale heat pump.

Exposed to the outdoors, this converted mechanism could remove heat from outdoor air, absorb it in its cooling chamber, and pass that recaptured heat through its coils to the inside of your home.

Instead of being physically reversed (like this mythical refrigerator) heat pumps depend upon relays of thermostats and valves which control the temperature cycle (from hot to cold and medium).

And, strange to relate, within bounds these dingusses are successful—especially in temperate climates.

Three basic sources of energy power the "something for nothing" reverse cycle refrigeration system:

(1) Earth. Its temperature is constant at six feet or deeper. However, soil is a poor conductor, so this method has its disadvantages.

(2) Water. As a conductor it's excellent. But it is in short supply in most communities. Furthermore, drilling a well adds to the cost of farm or suburban installations.

(3) Air. It is plentiful, free, but so far relatively costly for all-year systems.

General Electric and Westinghouse reverse cycle systems depend on air as their temperature source. Brunner and Typhoon heat pumps, among others, draw their energy-transferrals from water.

They claim excellent efficiency, because water temperature is more constant than air. Moreover, water-cooled heat pumps presumably are cheaper to install than air-cooled condensers.

In those areas where water is plentiful this type of heat pump costs less to operate than the air-to-air type. Obviously there are geographical limitations to its market.

Biggest drawback to mass sales of the so-called Heat Pump is original cost of the equipment. Installation figures vary. But most engineers agree that a heat pump installation will cost 20 to 50% more than the price of a conventional all-year home air conditioning system.

Reverse cycle systems fare best in temperate climates where the winter heating load is roughly equivalent to the summer cooling load.

Thus, in the South and Southwest, where air conditioning is almost a necessity and heating equipment is used only occasionally, the Heat Pump appears to have clear sailing. It may take a while longer for it to move northward of the Mason-Dixon line in substantial volume.

A dissident to this go-slowly view is the General Electric Co., which already claims 85% of the total Heat Pump business. G-E, which has a corollary stake in Electrical Public Utilities needs for a balanced load, is pushing this "engineers' dream" far in advance of present market expectations.

Westinghouse is giving it a good "go," also, because of the same corollary compulsions.

In time, this device may become an answer to the homeowners' prayer.

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'The Conscience of the Industry'

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SCORES 'OFF-THE-CUFF' REMARKS MADE BY CONTRACTORS ABOUT CONSULTING ENGINEERS

Consulting Engineers Council
Springfield, Ill.

Editor:

A copy of the AIR CONDITIONING & REFRIGERATION NEWS dated July 21, 1958, has been read by the undersigned with considerable interest, particularly the article entitled "Architects, Consulting Engineers, and Contractors at Work."

Irresponsible comments similar to those you have quoted cannot ever be the basis for constructive improvement to conditions that do exist in the construction field. We as a profession realize that some of the plans and specifications turned out by, and with the sanction of, a registered professional seal are not up to the standards desired by the majority of us. We as engineers are just as desirous of eliminating inefficient engineering firms and organizations as are these anonymous contractors.

In your article a few disgruntled anonymous contractors made off-the-cuff remarks. The engineer was condemned for not specifying by name the equipment to be used. On page 18 you inserted one sentence that I believe properly expresses the importance of the consulting engineer to the installation of air conditioning equipment or any other equipment entering into one of our major structures. This sentence is as follows: "He is interested mainly in over-all performance."

Engineers are not interested in any particular brand of equipment for use in any building. They are interested only in the service that equipment is to perform and whether the equipment chosen will perform that service. Most equipment is specified on a performance basis. Most engineering firms do not accept the plans and specifications as furnished by the contractor merely as a courtesy. Those plans and specifications are reviewed in detail and are not approved or accepted until the engineer knows that the equipment will provide the services as originally specified.

C. C. PATE,
President

CTI PRESIDENT DEFENDS HOME TRAINING COURSES

Commercial Trades Institute
1400 Greenleaf Ave.
Chicago 16, Ill.

Editor:

I have enjoyed the "Report on Education," and was especially interested in the article on Correspondence Schools.

In describing our school, the author states, "To aid those persons who cannot spare even a week or two from their job to attend shop courses, Commercial Trades Institute, Chicago, has developed a correspondence course during which the student is sent *bits and pieces* and tools which, by the course's end, will allow him to have built a complete and operating condensing unit. . . . The technique is only a couple of years old and *has not yet stood the test of time,* but CTI is enthusiastic about it." (Italics mine.)

We do not send "bits and pieces"—we send top-quality parts and tools to build a commercial-type ¼-hp. condensing unit. Our plan is over three years old—and it has more than stood the test of time. It is a practical, proven way to learn.

Our records clearly show that home study schools do just as well as resident trade schools.

R. C. ANDERSON,
President

Despite Charges to the Contrary

Refrigerators Require Less Servicing Now Than Earlier Models, Frigidaire Study Shows

TARRYTOWN, N. Y.—Refuting charges now widely circulating among consumers and the consumer press that present-day models of appliances such as the refrigerator require more service than do the models made some years ago, and that servicing of such equipment is badly handled and at a low point in efficiency, E. E. "Judge" Landis, Frigidaire Div. service manager, cited facts and figures tending to prove just the opposite.

63% Less Service Than 20 Years Ago

Speaking at a preview of 1959 appliances, Landis said refrigerators manufactured by his company now require 45% less service than just 10 years ago, 63% less attention than models produced 20 years ago. He also reported that 94% of all service calls now are completed on the first contact, and that the average call on 1958 Frigidaire refrigerators required 10% less time than on 1950 models.

Frigidaire has had a two-fold program under way for some time, designed to provide better service for its customers by: (1) reducing the likelihood of service through continual improvement of product quality, and (2) increasing the efficiency of the service organization.

Quality improvement of a product is carried out under the close surveillance of a top management quality committee, from the engineering design stage on through purchasing, production, inspection, and sale to the customer. The committee keeps itself posted on product performance across the country through a weekly field reporting system.

Training for dealer servicemen headed the list of activities which are aimed at increasing the effectiveness of field service organizations.

Weekly Telegram Tells Plant of Problems

Some of the procedures used to improve quality and to develop better field service were described by Landis:

A weekly telegram is received from each sales district telling the factory of their service problems for the past week. This information is immediately covered with the executive committee as well as engineering, manufacturing, and inspection managements.

For a closer look, certain of the dealers who service these products are requested to send copies of dealer work orders to the factory. An analysis of these calls shows that in one out of eight, there is nothing wrong with the product. Such calls are, for example, because of a blown fuse, electrical cord not plugged in, or a request to instruct the user on how to use the appliance. The latter usually results from the customer not reading the user's manual.

In addition to the work orders which are received from selected metropolitan dealers, the field organization is supplied with a padded form to report on product operation brought to their attention by dealers and customers. This is in the form of a self-mailer.

All this information is summarized each month in a Product Quality Analysis report. This covers the cost of labor for performing service on the users' premises and material costs.

Trains 33,000 per Year

To increase the efficiency of its service organizations, Frigidaire has trained an average of 33,000 students per year for the past five years, and has supplied others with a home-study course. "Tech-Talk" service bulletins are issued, devoted to presenting products, new and old, from a service standpoint.

A special effort is made to supply genuine functional parts so that the company's products do not become orphans. Some of the parts still being produced date back to 1921.

An effort is made to engineer the product with an eye to service economy. For example, refrigerators contain a hermetically sealed unit. Two years ago, if any part of the system was damaged or failed, it was necessary to replace the entire sealed refrigerating system. Now it is practical to replace just the inoperative part or component, thus saving the customer at least 50%.

In the metropolitan areas, servicemen are zoned as to areas of operation and consequently, can service more people faster by reducing travel time. In some instances, the service trucks are radio dispatched.

A dealer evaluation program is vigorously promoted to upgrade dealers to serve users of Frigidaire products. Those dealers who qualify are privileged to display an Award of Merit Plaque.

Better Customer Relations Is Training Topic

A regular part of every technical training program is a session on better understanding between customer and serviceman. Along this line, a number of films for showing to servicemen and to delivery organizations have been developed. The use of uniforms for servicemen is recommended, and a serviceman's identification card is furnished to the dealer.

For dealer use when accepting telephone calls for service, a Call Clerk Manual has been developed. Presently, the factory is advocating that dealers subscribe to an answering service which will accept and automatically record calls received during the hours when the dealer's place of business is closed.

A direct-mail card has been developed for the use of dealers in following up on service calls. It serves to let the customer know that the dealer is interested in this problem.

Independent survey organizations are used to check thousands of Frigidaire customers to assist the factory in its quality and service programs.

Code of Ethics for Locker and Freezer Provisioners Approved at Convention

CHICAGO—One of the most significant things to come out of the 19th annual locker and freezer provisioners' convention held here recently is a code of ethics for the industry, it was reported.

The code, which will serve as a set of operational standards for members of the National Institute of Locker & Freezer Provisioners, sponsor of the convention, was unanimously approved at the association's business meeting.

Individual provisions of the code were drawn up for presentation to the membership by the National Institute, in cooperation with Better Business Bureau officials. It is anticipated that local Business Bureaus will also aid in administration of the code and in enforcing compliance with the standards it sets forth.

Essentially, the code of ethics governs practices in the areas of advertising and selling of food plans and food-freezer programs. The National Institute's seal will identify the operators all over the U. S. and Canada who subscribe to the code.

Dealers who follow this code subscribe to the following:

1. High standards of plant cleanliness and sanitation shall be maintained at all times; meat shall be properly packaged in freezer wrapping materials; all food shall be sharp-frozen and stored at proper frozen food storage temperatures in accordance with accepted industry practices. If a food delivery service is provided, safe frozen food temperatures shall be maintained throughout all stages of delivery.

2. Only recognized government grading terms shall be used to designate grades of meat and frozen foods except where both supplier or packer names and brand labels are being used.

3. Operators shall not create the impression that they are in the food business if this is actually not the case.

4. Operators shall refrain from price reductions on initial food orders which are designed to create a false impression about price levels; they shall also guarantee that they will maintain the quality level of food products delivered on the first order.

5. Members shall abstain from using the price of any primal or wholesale cuts of meat in such a way as to imply that individual cuts are sold at these prices, unless this is actually the case.

6. Advertising shall be truthful and accurate; it shall not contain exaggerations or misrepresentations or be misleading or deceiving in respect to grade, quality, quantity, substance, character, make, type, price, size, use, or specifications of products or services. Generally, all food plan advertising and selling shall be in accordance with accepted practices. Specifically, it shall:

(A) Reveal material facts, the non-disclosure of which would mislead the public.

(B) Refrain from claiming monetary savings unless these claims can be substantiated.

(C) State the advantages, conveniences, and economies of freezer food plans truthfully without exaggeration.

(D) Not represent or imply that quantity or selection of foods in a freezer food plan is adequate for the purchaser's entire requirements in any specific period when such is not the fact.

(E) Clearly state that prices apply only to quantity purchases when such is the case,

(F) Not use terms such as "wholesale" or "at wholesale prices" or any expression implying that the food or the freezer or both is being offered at wholesale prices when such is not the fact.

7. Any contract covering the purchase of a freezer in a freezer food plan, on an instalment basis, should be in accordance with local statutes governing conditional sales contracts or similar contracts which generally require disclosure of certain information (such as selling price, down payment, balance, finance charges, insurance charges, number and amount of instalment payments) and a copy should be given to the purchaser at the time the sale is made. Contracts or bills of sale for freezer and food should be made in accordance with other existing legal regulations; and none should conceal charges in relation to the price of the freezer or any other part of a freezer-food plan.

8. In representing freezer capacity, all statements or figures shall be accurate, based on standard method of computation and not capable of misinterpretations.

9. If food memberships are sold to patrons already owning home freezers, the benefits of the food membership shall be definitely stated in writing; operators shall provide all of the benefits of food membership that are included in its representation.

10. It is recommended that the seller provide full customer satisfaction guarantee on all meat and food products.

WHAT . . WHEN . . WHERE

Air-Conditioning & Refrigeration Wholesalers Meeting
Oct. 22-24, Sheraton-Palace, San Francisco.

National Electrical Manufacturers Association Meeting
Nov. 10-14, Traymore hotel, Atlantic City, N. J.

National Association of Practical Refrigerating Engineers Meeting
Nov. 11-13, Kenilworth hotel, Miami Beach, Fla.

Better Heating-Cooling Council Meeting
Nov. 17-19, New York City.

National Commercial Refrigerator Sales Association Convention
Nov. 17-19, Golden Gate hotel, Miami Beach, Fla.

Refrigeration Service Engineers Annual Convention
Nov. 21-24, Nell House, Columbus, Ohio.

American Society of Refrigerating Engineers Meeting
Dec. 1-3, Roosevelt hotel, New Orleans.

National Warm Air Heating & Air Conditioning Association Convention
Dec. 4-5, Statler Hilton, Cleveland.

Dairy Industries Exposition
Dec. 8-13, Navy Pier, Chicago.

Stella Participates In Small Business Opportunities Panel

DETROIT — Frank Stella of the F. D. Stella Products Co., commercial refrigeration and air conditioning firm here, took part in a panel discussion on "Opportunities In Small Business" Wednesday evening, Oct. 15, in Wayne State university's Kresge Science Auditorium.

Stella and the four other speakers all became corporation presidents before they were 39. They are members of the Young President's Organization which presented its fifth annual panel discussion at Wayne State.

550-Ton Heat Pump System Installed In Columbus Utility's New Headquarters

COLUMBUS, Ohio — A 550-ton air-to-air heat pump installation is an outstanding feature of the new $5 million office building constructed for Columbus & Southern Ohio Electric Co., it has been announced.

The heating and cooling system will warm the building in the winter and, with parts of the pump cycle reversed, will drive out unwanted heat in the summer, the announcement noted.

The utility's new home reportedly is the largest office building to go up in Columbus in 25 years, and the first stainless steel curtain wall design to be erected in Ohio.

Nine stories high, the building contains 171,200 sq. ft. of floor space and provides space for 640 employes of Columbus & Southern Ohio Electric.

The new building includes two auditoriums and two training kitchens to accommodate lectures, demonstrations, and presentations. Display areas will be made available to electrical manufacturing firms in the Columbus area.

Floors are lightweight concrete on cellular steel decking which acts as permanent form for the concrete and at the same time houses the maze of electrical circuitry required to power the office business machines, the electrical appliances used in the training kitchens and demonstration areas, plus the heavy equipment used to manipulate rotating stages and other auditorium display features.

Engineer and Constructor was Ebasco Services, Inc.; architect, Edgar I. Williams.

Approve Cooling for Cape Fear Hospital

FAYETTEVILLE, N. C. — Federal aid for air conditioning the Cape Fear Valley hospital here was approved Oct. 3 by the Department of Health, Education, and Welfare.

A spokesman for U. S. Senator Sam Ervin said the total cost of installing the air conditioning will be approximately $173,000, the Federal share being $115,333.

Robertshaw-Fulton Eastern Research Center Will Be Air Conditioned

PHILADELPHIA — Construction started recently on the new Eastern Research Center of Robertshaw-Fulton Controls Co.

The research and development facility located 15 miles from Philadelphia in King of Prussia, is the fifth such installation for Robertshaw. Completion of the center is expected before the end of the year.

Ralph V. Coles, the center's general manager, said a primary objective of Eastern Research Center is to bring the advantages of advanced automation to the average homeowner.

Coles cited as an example a portable control panel, no bigger than a cigar box, from which a housewife can control such household functions as cooking, heating, air conditioning, laundering, garden watering, and room-to-room communication throughout the home.

Many of these programs are already underway at temporary quarters in Philadelphia, he added.

Coles described the center as a completely integrated research establishment. The one-story building will be air conditioned, with the exception of a small testing laboratory mainly for repetitive experiments on heated appliances. Other departments include general laboratory, engineering, general offices, library, conference room, and model shop.

The 18,000-sq. ft. center will be on a 20-acre site. A staff of 100 scientists, engineers, technicians, and others will be employed initially.

Coles said an experimental home will be constructed at the site in the future.

American Can Co. Will Have Air Conditioned Data Processing Center

EDISON, N. J. — Steelwork for a 13,000-sq. ft., air conditioned Data Processing Center for American Can Co. has been started here by Wigton-Abbott Corp., engineer and constructor of Plainfield, N. J.

The building, which will feature a curtain wall facade of aluminum, glass, and porcelain, will contain a special computing room designed and constructed to maintain accurate conditions of temperature and humidity.

ASHAE Revises Steam Flow Data

NEW YORK CITY—Revised steam flow data has been prepared by the American Society of Heating & Air-Conditioning Engineers.

This new material is the result of a study completed at the ASHAE Research Laboratory, Cleveland, under the guidance of the Technical Advisory Committee on Hot Water and Steam Heating.

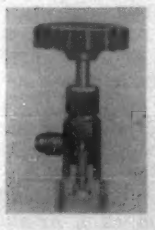
The data will appear in the Heating, Ventilating, Air Conditioning Guide in chart form covering all saturation steam pressures between 0 and 200 p.s.i.g. Information covering the lower steam pressures will also be included in tabular form.

According to the ASHAE Research Laboratory, the new data is based on the Moody Friction Factor, which takes into account the Reynolds Number and the internal surface roughness of the pipe. The steam-flow data used in the past was based on the Babcock-Unwin equation, which is known to be conservative in the smaller pipe sizes, the ASHAE said.

"Recent ASHAE Research Laboratory tests on the experimental measurement of steam flow in 1-in. steel pipe have shown excellent agreement with the Moody method of predicting fluid flow," it was noted. "The measurement of steam flow in small copper tubing is now under study at the ASHAE Research Laboratory."

Small Line Tap, Port Valves Bowed by Henry

A complete line of small and inexpensive tube piercing and tapping valves, including line tap, line port, can tap, and control valves, has been announced by the Henry Valve Co., Dept. ACRN, 3215 North Ave., Melrose Park, Ill., for refrigeration, air conditioning, and industrial applications.



The new valves are suitable for use with aluminum, copper, or steel tubing, according to the company.

"The line tap and line port valves provide a permanent capped port for charging, discharging, and testing," it was pointed out. "Line port valves are primarily for sealed systems. The control valves, both angle and two-way types, are designed for use with all these Henry auxiliary valves and provided with a screw driver tip for ease of operation.

"Being essentially two valves employed together to pierce lines or cans, the control valve is removable, leaving the line tap or can tap valves in place for further use. The control valve is easily removed without the loss of expensive gases or fluids such as refrigerants. A seal cap (not shown) is then installed on permanent fitting."

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

More details on the products described on this page may be obtained by writing the manufacturer at the address given in each story.

Magnetrol 273 Features Positive Action

Developed for refrigeration applications where a precise, limited float or displacement action is desired, the new R-273 Magnetrol is now available for refrigeration service, according to Magnetrol, Inc., Dept. ACRN, 2110 S. Marshall, Chicago.

The model has a newly-developed switch mechanism featuring positive switching action—obtained by as little as ½ in. of liquid level travel in some applications, the company said.

"Magnet assembly pivots are hardened to eliminate wear," it was stated. "Pivot sockets are permanently lubricated during manufacture to eliminate need for further lubrication."

'Super Dry-Eye' Extends Life of Elements

A re-designed "Super Dry-Eye," extending the life of the moisture indicating elements "indefinitely," has been introduced by Ansul Chemical Co., Refrigeration Products Div., Dept. ACRN, Marinette, Wis.

The Super Dry-Eye is a combination sight glass and moisture indicator for refrigeration and air conditioning equipment.

The life of the indicating elements is extended by an exclusive pad and filter feature which protects them from the constant flow of refrigerant, it was stated. Minute particles of circulating solids are collected by the filter, leaving the moisture indicating elements dirt-free, the company said.

Full view sight glass area has been retained by re-locating the moisture indicating elements across the bottom third of the sight glass. An improved Refrigerant-22 indicating element, under development for more than a year, is incorporated in the new Dry-Eye.

Hose Package Has 3 Colors for Coding

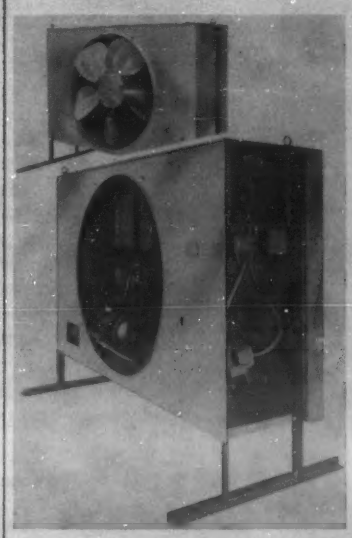
A package of three charging hoses—each a different color—for easy color coding when charging a refrigeration or air conditioning system, is being offered by Superior Valve & Fittings Co., Dept. AC&RN, 1509 W. Liberty Ave., Pittsburgh 26.

The three-pack contains a red, white, and green hose for visual separation of the high side, charge line, and low side. The three hoses are packaged in a clear polyethylene bag.

Each hose is 36 in. long, and made of an improved grade of neoprene that holds a charge up to 500 p.s.i. working pressure, the company stated.

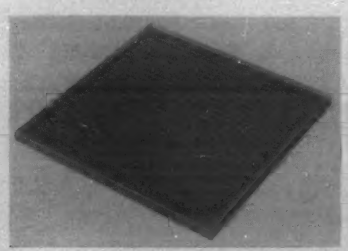
Remote Condensing Unit Available In 5 Models

A new "LRCU"—a large remote condensing unit, available in five models with ratings from 10 to 30 tons, has been introduced by Dunham-Bush, Inc., Dept. AC&RN, West Hartford 10, Conn.



The unit consists of a BC-P remote air-cooled condenser having a compressor, receiver, electrical controls, and other refrigeration accessories mounted within the casing of the BC-P unit. Compressors can be single or dual; where dual compressors are used, completely separate refrigeration circuits are furnished.

Each refrigeration circuit is complete, having its own set of components, and is supplied with compressor, motor, magnetic starter. Units are shipped with a holding charge.



Viking Claims 20-Yr. Life for Filter

A new type of all-metal air filter, with a life expectancy claimed by the manufacturer to be 20 years, has been introduced by Viking Air Products, Dept. AC&RN, 5601 Walworth Ave., Cleveland 2, Ohio.

The copper media or core material features "air scoop" construction. It does not require coating and, therefore, according to the manufacturer, vacuums clean easily with a household vacuum cleaner.

"A corrugated aluminum entry grid holds the media firmly in place and permits it to 'depth-load' so that the filter remains efficient for a longer period of time," the announcement said. "The back of the filter is supported by a corrugated aluminum screen and the edges are of precision formed aluminum channel."

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Only 25¢ each.

Heat Exchanger Has One Point Suspension

Development of a new design in heat exchange suspension, providing for single point suspension of the entire heat exchanger within the furnace, has been announced by Tuck-Aire Furnace Co., Dept. AC&RN, 2045 Evans Ave., San Francisco 24, Calif.

Fastened securely only at one point near the top of the element front, the heat exchanger "floats" to accommodate expansion and contraction, the company said. In addition to the fixed suspension of the upper portion of the exchanger, the lower portion is free to move vertically in gasketed slots in the lower area of the element front panel, it was pointed out.

As a result, the Tuck-Aire heat exchanger is said to provide quiet operation and longer furnace life.

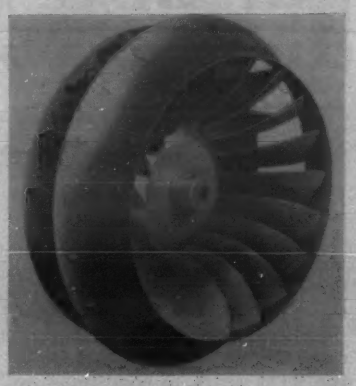
In addition, the heat exchanger contains the new "Fuel Miser" which is actually a secondary heat exchanger. "The Fuel Miser captures all potential expulsion of burnt gases and vents them away," the company stated.

Improve Saw Attachment

Its new, improved "Sawmor" portable gearless reciprocating saw-attachment attaches to all standard ¼ and ½ in. electric drills, air drills, and flexible shafts for power, according to Saw-Mor Tool & Blade Co., Dept. AC&RN, 520 Machinery Hall building, Washington at Clinton St., Chicago 6.

Weighing 3½ lbs., the Sawmor enables the operator "to work anywhere—on ladders and scaffolding, on roofs, in basements, and hard-to-get-at spots," the manufacturer said. The tool saws metals including monel and stainless steel, pipe, wire, cable and conduit.

'Radically New' Mixed-Flow Air Impeller Offered



Availability of a "radically new design" of mixed-flow air impellers is announced by the Air Impeller Div., Torrington Mfg. Co., Department AC&RN, Torrington, Conn.

These impellers are designed to operate in the range of performance between axial fans and centrifugal blowers.

"Because most of the pressure conversion takes place within the blade passages, the performance is less dependent upon the specific housing configuration," it was pointed out. "The application of these impellers in a typical room air conditioner has shown very substantial reductions in noise and fan motor power. The space required by the new impellers is comparable with the space requirement of the more conventional impellers in common use today.

"The Torrington 'H' mixed-flow impeller (photo) is composed of 19 precisely contoured blades mounted between a curved inlet ring and back plate. The blades at the intake edge resemble the blades of an axial impeller and at the discharge edge resemble the blades of a typical centrifugal impeller.

"The blending of these two features results in a complex, compound blade curvature.

Air Distribution Requirements In Year-Round Air Conditioning

Part 3—Fundamentals of Equipment

By Frank D. Klein, Chief Engineer, Governair Corp.

Is Critical Temperature Important? Not especially for everyday applications. Both R-22 and R-12, as will be noticed from the table, have a critical temperature well above the normal Condensing temperature ranges when applied under the most extreme conditions involved in Comfort Conditioning applications. These same remarks hold true of course for the critical pressure in the same relation.

Condensing pressure and temperature are important in selecting the method and media for condensing. Inasmuch as both R-22 and R-12 possess condensing temperatures and pressures well within the range of both air and water as a condensing media, there is little importance that can be attached to these properties other than consideration of locating of the condenser itself in relation to the condensing media used; here the geographical as well as actual physical location of the condenser must be considered.

The maximum condensing temperature of either refrigerant will be the governing factor; correlated of course is the condensing pressure which initially will govern the use of refrigerant lines, pressure vessels, and the like, thus dictating the selection of the refrigerant whose condensing pressure, under the maximum condensing pressure-habitat, will meet the safety requirements involved. Pressure-temperature correlation inevitably invites selection of condensing media under applied circumstances and conditions.

VALUE OF KNOWING AND CONTROLLING DISCHARGE TEMPERATURES

Discharge temperatures in the case of either R-22 or R-12 are in the so-called normal range under the evaporation and condensing relationships that should be maintained in equipment for comfort conditioning. However, note that R-22 does have a higher discharge temperature under the same conditions as R-12.

		Refrigerant-12	Refrigerant-22
1.	Chemical aymbol	CCl_2F_2	$CHClF_2$
2.	Molecular weight	120.9	86.48
3.	Boiling temperature @ 0 p.s.i.g. (F.)	-21.6	-41.4
4.	Freezing temperature @ 0 p.s.i.g. (F.)	-252.0	-256.0
5.	Critical temperature (F.)	232.7	204.8
6.	Critical pressure (p.s.i.a.)	562.0	716.0
7.	Evaporator pressure @ 5° F. (p.s.i.g.)	11.8	28.3
8.	Condensing pressure @ 86° F. (p.s.i.g.)	93.2	159.8
9.	Ratio of compression @ 86° F., 5° F. (p.s.i.a.)	4.07	4.06
10.	Net refrigeration effect of Liquid @ 86° F., 5° F. B.t.u./lb.	51.1	69.3
11.	Refrigerant circulated per ton—lb./min.	3.92	2.89
12.	Liquid circulated per ton—86° F., 5° F., cu. in./min.	83.9	68.0
13.	Specific volume of vapor 5° F., cu. in./min.	1.49	1.25
14.	Compressor displacement per ton—86° F., 5° F., c.f.m.	5.81	3.60
15.	Horsepower per ton—86° F., 5° F., hp.	1.002	1.011
16.	Coefficient of performance, 86° F., 5° F.	4.7	4.66
17.	Temperature of compressor discharge	100.0	131.0
	Note: Above values for performance based on 5° F. evaporating and 86° F. condensing. Some other useful values are:		
18.	Heat content of saturated vapor in 5° F. evaporator B.t.u./lb.	78.79	105.56
19.	Heat content of liquid leaving 86° F. condenser B.t.u./lb.	27.72	36.28
20.	Cubic foot of liquid per lb., 86° F.	.0124	.01363

High discharge temperatures must and should of course be avoided inasmuch as high temperatures will contribute to either oil or refrigerant breakdown or both.

This fact coupled with some inherent moisture results in acidic conditions that promote sludging. Further, the use of air as a condensing media if supplied in insufficient quantities and quality will contribute to high condensing temperatures as well as high discharge temperatures, thus making the refrigerant even more critical to breakdown.

OPERATION AND EQUIPMENT COSTS AFFECTED BY COMPRESSION RATIO

Both cost of operation and initial cost of equipment is influenced by the compression ratio. High compression ratios demand higher precision in design and manufacture of compressors in order to minimize losses in volumetric efficiency; higher costs in expansion valves, solenoid and other valves, and refrigerant lines. Note from the tabulated information given previously that both R-22 and R-12 in this respect are very close together; however, if one was to compare them with ammonia for instance which has a ratio of 4.94 or sulfur dioxide which has a ratio of 5.63 or methyl chloride for that matter with a ratio of 4.48, one can appreciate the difference.

Net refrigerating effect and quantity of refrigerant circulated therefore directly affect the latent heat of vaporation, and in all cases of the application under discussion a high latent heat of vaporization is desirable, because it dictates the net refrigerating effect.

The refrigerating effect is the basic key to desired operation because the required heat transfer from the air (or water in the case of chilled water evaporators) being passed over the evaporator must take place, this basically is the quantity of heat absorbed by each pound of liquid refrigerant as it flows through the tubes of the evaporator.

(To Be Continued)

Production of 25 Millionth Fusite Glass-to-Glass Terminal For Sealed Refrigerating Units Indicates Industry Growth

LATEST type Fusite terminal, which has extended the use of this type terminal to hermetic refrigeration compressors through the 7½-hp. size, is shown by W. A. Barrows (left), Fusite Corp. president. At right, in front of J. H. Marsh, vice president, are sight glass devices for hermetic compressors, the design of which incorporates some of the principles used in the manufacture of the terminals. Firm recently produced its 25,000,000th terminal for sealed refrigerating units.

CINCINNATI—In August of this year Fusite Corp. here produced its 25 millionth glass-to-metal feed-through hermetic terminal for refrigeration unit application, and this figure is significant not only of the dominance of this particular hermetic terminal, but is also indicative of the tremendous growth in the refrigeration and air conditioning industries since the end of World War II.

In the early stages of its use the Fusite hermetic terminal was confined to the smaller fractional horsepower units used in household refrigerators and food freezers. Then adaptions in design were made which made it possible to handle units up to anything less than 2 hp. in size, thus extending the application to most room air conditioners.

More recently, the design of the high horsepower terminal has been further developed to extend its application in units in the size range from 2 hp. through 7½ hp., thus covering practically all residential and a good share of the commercial air conditioning applications.

Fusite Corp. was established in 1943 in a group of store buildings in Cincinnati. It was an off-shoot of the long-established Barrow Porcelain Enamel Co. Original production was glass-to-metal terminals for the Armed Forces and at the present time, approximately 50% of Fusite production is in the electronics, aircraft, and missile field.

As the end of World War II approached, the Fusite organization, headed by W. A. Barrows, president, realized that there would be a drastic decrease in the military field. They also knew of the need of the refrigeration and air conditioning industry for a terminal that would pass electricity through a compressor housing to the enclosed motor and still retain the refrigerant gases for an indefinite period.

An early version of the current Fusite terminal was tooled, produced, and first installed in the Norge compressor.

In 1946 about 250,000 terminals went into refrigeration units. Each year saw an increase until in 1957 the number exceeded six million.

During the entire 12 years that glass-to-metal terminals have been available to the compressor trade, there have been numerous manufacturers in the field. No patents cover this product. That the Fusite organization has managed to gather up a very large share of the total volume is due, company officials assert, to getting into the field first, then maintaining a lead in quality, production methods, and low price.

The first Fusite refrigeration terminals naturally were relatively crude items as compared to the present-day product. The first terminals were made of all iron parts with commercial glass. They would not be able to contain today's refrigerants and would take little punishment in the installation. It was necessary to weld them into the compressor housing in a water-quenched resistance welder.

Research into special glasses and into alloy pins and new design stampings resulted in the current terminal which can be welded into place at rates up to 600 parts per hour—or as fast as the parts can be handled. No special attention is needed in the assembly operation other than good electrodes and a good adjustment to the welder.

Next major step forward after the perfection of the present design was in the addition of tabs with AMP "Faston" connectors. This made it possible to use the terminals in units up through the 1-hp. range, thus covering much of the room air conditioner production.

Then two and one-half years of research went into the design of a high horsepower terminal so that the benefits of quick, cheap, fool-proof installation and performance could be extended to models up through the 7½-hp. range.

Development of the high horsepower terminal was considerably more complicated than simply enlarging the original Fusite terminal. This would require a volume and configuration of glass that would result in a fragile, impractical terminal.

The product that developed eventually relied on the basic original Fusite terminal for hermetic properties, the electrical properties were extended through the use of cored wire and tab type connections, and the over surface requirements were met by glass extensions added with the aid of epoxy adhered barriers.

A new product developed by Fusite Corp. and now on the market is a sight glass, which is welded into place in the same manner as the terminals, and is being designed into several larger compressor models.

To assure an uninterrupted flow of Fusite parts, subsidiary manufacturing facilities have been established at Woodford Mfg. Co., Versailles, Ky.

In 1956 and 1957 it was apparent that an increasing number of terminals were being shipped to Europe and with the "Common Market" in prospect, it seemed time to establish a manufacturing setup in Europe, which was done with the establishment of Fusite N. V. in Almelo, Holland.

TECHNICAL CENTER

By Frank J. Versagi, Technical Editor

Furnace Brazing

Manufacturing operations are primarily designed to allow production of a quality product at the lowest possible cost. Installation and servicemen sometimes complain that methods which accomplish these objectives for the manufacturer may make field work more difficult. They point to such items as specialty fasteners which work admirably on an assembly line, but which are bruisers to work with in the field.

Manufacturers justifiably rebut that they give ample consideration to the per cent of total cost which field service entails, and act to achieve best all-round advantages.

The use of furnace brazing in the production of items like compressor valves, filters, driers, fittings, and adapters is a case in point.

Economical and Effective for Mfr.

As a manufacturing operation, furnace brazing is economical and effective. When conditions are properly controlled, products are high quality. But, if the process is out of control for any reason, field difficulties appear. These difficulties may be something as direct as a small leak where a steel member has been brazed to a brass one, or it may be more sophisticated—something like just enough warping of a member to prevent perfect fit onto the major assembly.

Before discussing some of the reasons for defective furnace brazing, it is well to get a firm idea of what the process involves.

Stanley Cross, brazing engineer at American Platinum Works, Newark, N. J., defines furnace brazing as a "brazing process where the temperature required is obtained from a heated chamber or furnace in which the work is placed. Usually the work is fluxed and assembled with a brazing alloy preform. In the chamber, the brazing alloy melts and flows by capillary action into the joints around which the preforms were placed."

Several Things That Can Go Wrong

As simple as the procedure sounds, there are several things which can go wrong, each of which will cause defective parts or uneven quality. On occasions, the error may be something as simple as the stock boy's getting the wrong box of preforms for the jobs.

Or a new girl is put on flux application and misses key assembly areas.

But, more important, are the items which have to do with the process itself. First, there is heat. Brazing furnaces are frequently adjusted to temperature with no load. When a rack of parts is inserted, uneven temperatures occur on various points of the rack and in various areas of the heated chamber. This loading effect on temperature must be considered in setting up the method.

The actual loading of the racks can have a bearing on which parts get hot first, which get too hot, and which never reach brazing temperature. The method used for securing parts on the rack can affect the operation.

The type of heat—electric, gas, induction—has a bearing on performance, as has such an item as the location of the controlling thermostat.

Extremely important is the clearance between members which are to be brazed together. Too loose or too tight tolerances can undo an otherwise well-controlled brazing procedure.

The effect of these variables is to make it impossible for generalized instructions to be given for furnace brazing various assemblies. In practice, optimum conditions and control for each type of brazing operation must be determined empirically—by trial and error. A load of drier shells will not necessarily braze under the same conditions as a load of compressor valves.

A specific example: two companies were furnace brazing identical assemblies for the Navy. Parts were close tolerance; fits were perfect. Yet one company was unable to get passing joints, while the other had no difficulty at all. Investigation showed that loading and handling practices were almost identical, but the successful fabricator was using induction heat, while the unsuccessful one was using gas.

A little study quickly disclosed that the quicker heating by induction changed joint clearances only a minute amount, while in the gas heat operation, parts were soaking heat longer and the fit was all but closed. Solution of the problem lay in slightly changing the dimensions of those parts which would go to the gas brazing furnace.

Materials Sometimes Cause Poor Brazing

Sometimes the materials are to blame for poor brazing. The common brass alloy known as 83-4-6-7 (per cent copper, tin, lead, zinc, respectively) will sweat lead when soaked too long in a brazing furnace. Lead or lead oxide in contact with brazing alloys causes the alloy to become brittle resulting in weak joints.

Selenium in steel causes similar difficulties.

Choice of the brazing alloy, itself, must give consideration to such items as the end use of the assembly. Not only from such viewpoints as corrosion and chemical action, but whether or not the assembly will be subjected to strong and continuous vibration, as a valve might be on a compressor.

In essence, all furnace brazing procedures are custom-built for specific assemblies, with a particular furnace, operating in a certain plant. Furnace atmospheres, temperatures, loading practices, materials used must be determined largely by trial and error.

In this case, obviously, great importance must be attached to performance of brazed components in the field, and here we have an example of that type of manufacturing operation which will be more responsive to service and operating problems than, say, the use of specialty fasteners.

(Next: Alcohol In Refrigeration Systems.)

Report on Education

Another article in a series dealing with all levels of education and training in the air conditioning and refrigeration industry.

By Frank J. Versagi, Technical Editor

6. Manufacturers' Schools

"We need some way to reach the experienced man once he has been in the field for several years; he needs education as much as the new man coming up."

This is the way one manufacturer presents the problem of the long-time serviceman—the man with 10, 20 years' experience. But also the man who probably hasn't opened any book other than a service manual for as many years as he has been a journeyman.

That the majority of experienced servicemen do not bother with schools of any sort is evident from several factors. Most important, there is very little schooling aimed at the serviceman who has several years' experience. The best he can do is take a trade or technical institute course for review, but then he has to sit through much of what he knows fairly well to get a few points that he needs brushing up on.

Small Percentage Attend Schools

Another factor which reveals that educational attempts are not reaching the man in the field is the low number of such men who attend even manufacturers' schools. One manufacturer estimates that only 2% of the people working on their products have ever attended a factory school. Most manufacturers' estimates center about 5%, while the highest guess is that 20% of one company's franchised servicemen have bothered to take a factory course.

Whatever may be thought of them, these manufacturers' schools are the only fairly well organized attempt at continuing education for journeymen.

True, they vary in effectiveness. But the basic idea of continuing education which they imply is a worthy one. The techniques they use can be coordinated and improved.

The erratic acceptance of manufacturers' courses can best be pointed out by citing the reactions of two experienced servicemen to two of the schools which the NEWS covered.

Describing a course in advanced cooling which had offered a comprehensive review of electrical theory and advanced service, one skilled serviceman stated, "I have learned and relearned more in this week than I have in my last five years in the field."

At the other extreme we have the reaction of an equally competent serviceman who attended a similar school of another manufacturer. With obvious disappointment, he complained, "Well, I learned that on this year's model they've moved the drier up 6 in."

As the NEWS attended several manufacturers' schools and talked with teachers and students from those and others, it became evident that—personalities aside—one factor which determined whether a course was classed effective or not by the students was top management's attitude toward the course.

Where service training is enthusiastically supported by management, there tend to be fully equipped school rooms with all the manufacturer's latest equipment, plus generally used component parts, demonstration boards, and the like. In these cases, instructors spend most of their time preparing and revising their material, the rest of their time circulating through the engineering, laboratory, and service departments to keep contact with practical problems and developments.

Management is not always so enthusiastic about service schools. When this is the case, school rooms tend to be mediocre or non-existent; instructors are whoever can be spared from some other job when the school is scheduled.

One well-known company had determined that it could not show any tangible result of its training schools in the past; that is, sales in the areas from which people had come to school were not any greater than from those areas which had sent no one to the school. As a result, the decision was made to discontinue the schools.

Even before this, however, the school was looked upon as a necessary evil. Texts were nonexistent; instead, a disorganized bundle of component part manufacturers' literature was passed out to the students.

Instructors devoted as little time as possible to class preparation. In fact, in one case, the NEWS found the instructor being assigned on Friday afternoon for a class which was to begin the following Monday. Neither the instructor nor the classroom were in shape for a class.

(Next: More on Manufacturers' Schools.)

Activity In Education

SAN JOSE CALIFORNIA'S Junior College, technical division, is offering courses in "air conditioning for contractors and installation men" this fall. Course is sponsored by Sheet Metal Contractors Association of Santa Clara County.

* * *

BELL & GOSSET'S "Little Red Schoolhouse" has added a special course in air conditioning and refrigeration. Course outline: fundamentals of refrigeration, service and maintenance, product and application.

* * *

RSES of MARION, Ohio is sponsoring course in refrigeration and air conditioning at Eber Baker Junior High. Course is open to anyone interested in the business.

* * *

RACCA of Southern California has received 225 requests from journeymen for courses leading to certification under the association's new training and education program.

EVAPORATIVE CONDENSERS

Some years ago Baltimore Aircoil Co., Inc. prepared a manual on evaporative condensers, covering all phases of the subject from theory of operation to installation and service practices, and most of it was published in the NEWS. Recently the manual was brought up to date by John Engalitcheff, president, and Thomas F. Facius, research engineer of Baltimore Aircoil Co., and the NEWS again publishes the major parts of the manual as a service to its readers.

Part 2—Selection and Installation

In the "once through" type water-cooled condensers, small increases in capacity can be attained due to "unlimited" water supply.

As the load increases, the water regulating valve opens wider, passing more water through, and thus increasing the capacity of the condenser. But the cost of this flexibility can be expensive when the condensing water is continually dumped into the sewer.

In an evaporative condenser the capacity is substantially fixed, and there is no simple way to obtain increased capacity.

Therefore, the selection should always be based on maximum load conditions along with the desired head pressure and the design wet-bulb temperature for the locality. B.A.C. Evaporative condensers are designed with sufficient safety factor to take care of occasional seasonable load fluctuations or wet-bulb temperatures which occur over and above the design conditions.

Summer Operation

The operation of an evaporative condenser during the summer season only is one of the more common applications encountered. Satisfactory performance will result if the selection is based on *maximum load conditions* along with the desired operating refrigerant temperatures and the design wet-bulb temperature for the particular locality. In low temperature refrigeration applications consideration must be given to the "pull down load" which may exceed the normal operating load.

Winter or Year-Round Operation

Some additional considerations must be made when an evaporative condenser is selected for year-round operation. Since this type application is usually low temperature in nature, the frequency of the "pull down load" should be considered. If the "pull down load" is frequent and is a part of the normal operating procedure, the condenser is to be selected for *this load* rather than for the normal operating load.

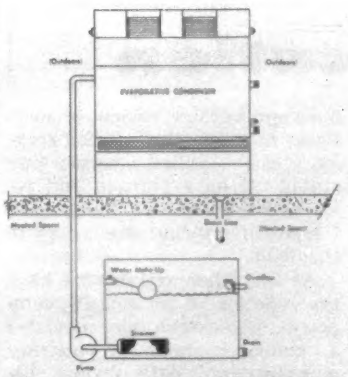


FIG. 4—Remote pump and auxiliary tank arrangement on an evaporative condenser installation for year-round operation.

A most satisfactory installation for year-round operation is the use of an auxiliary sump tank and pump located within a heated space. Fig. 4 shows a typical arrangement. With this method, the condenser drain is connected so that the water from the condenser sump always drains directly to the auxiliary tank.

In this type installation, care should be taken in the selection of the remote pump. The standard pumps on B.A.C. Evaporative Condensers are capable of delivering only the required gallonage when mounted on the condenser, and, therefore, are not suitable for remote installations. The pump must be selected to give the required total head which should include the vertical lift, pipe friction (in the supply and suction lines) plus 5 p.s.i. which is the pressure required at the spray header.

There is no danger of water freezing during shut down periods since it continually drains to the auxiliary tank in the heated space.

Capacity Control

On applications where there are excessive load variations, and a fairly constant head pressure must be maintained, some form of capacity control must be used. This condition exists during winter operation when the load is reduced and the ambient wet bulb is far below design conditions. By operating the evaporative condenser dry, the capacity of the unit can be reduced to more nearly match the load. This combined with damper control will give excellent capacity modulation over a wide range of conditions.

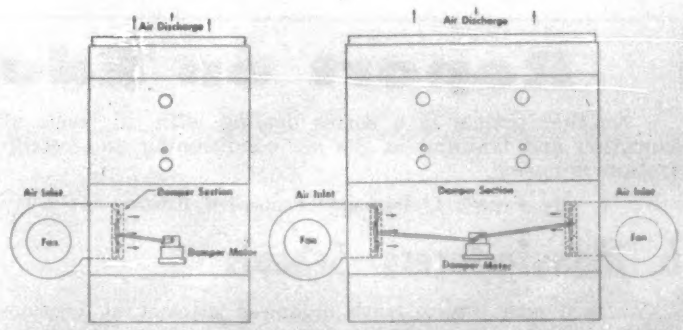


FIG. 5—Modulating damper control on B.A.C. "Blow-Through" evaporative condensers.

Damper Control

Modulating dampers on the fan discharge are the most desirable and the recommended method of capacity control on B.A.C. Evaporative Condensers. In operation, a modulating condensing pressure sensing element controls the damper motor and dampers, which in turn regulates the air flow through the evaporative condenser. An infinite number of steps of reduced capacity can be obtained with this method. See Fig. 5.

2-Speed Motor Control

Two-speed motors are recommended when one step capacity control is sufficient. With this type control, the evaporative condenser operates at either 50%, or 100% capacity. On two fan motor evaporating condensers, both motors should be operated at all times. When reduced capacity is required, both motors should be run at the low speed setting.

CAUTION: When operating a *standard single-speed two fan motor* evaporative condenser, do not operate one motor at a time. Operating one motor will cause it to overload.

Basically, the evaporative condenser is an outdoor piece of equipment and it should be installed outdoors whenever possible. Sometimes it is necessary to locate a unit indoors due to space limitations and/or to facilitate a means of building ventilation. In this type installation, adequate provisions should be made for unrestricted air flow to the unit. Indoor installations require ductwork for the discharge air, but supply ductwork to the unit may not be necessary if the room can be used as a plenum.

When a unit is installed indoors the "Draw Through" type is generally more adaptable than the 'Blow Through" type. However, either may be used depending on the circumstances. If ductwork is required, the horsepower required due to the external static pressure can be obtained from the evaporative condenser bulletins.

In any case, whether the condenser is installed indoors or outdoors, the following points should be taken into consideration when locating it:

1. There should be sufficient free and unobstructed space around the unit for proper servicing.

2. There should be a free and unobstructed path for the flow of air to and from the condenser.

3. The discharge air should not be deflected in any way that might cause short circuiting of the air flow. The possibility of air recirculation should be particularly considered on multiple condenser installations.

(To Be Continued)

Refrigeration Problems
And Their Solution
(*As Written by Paul Reed*)

Short Cycling

Question: Will you help me find my trouble? I am working on a 1½-hp. system on a walk-in cooler, with a blower coil. What I want to find out is, what makes it short cycle?

It is pressure controlled. The sight glass shows full and liquid shows at the valve. Head pressure is 150-lb. Refrigerant-12. Valve seems OK, the screen is clean. Coil is frosted all over.

I purged unit for air. It has a ¼-in. liquid line. Discharge valves check good. I installed a new 1½-hp. drier. Nothing helps.

Answer: The first noticeable fact that could very well be the cause of short-cycling is the size of the liquid line, which you state is ¼ in. That is far too small for a 1½-hp. unit, which should have a liquid line of not less than ½ in. and preferably ⅝ in. if the liquid line is more than 10 or 15 ft. long.

There must be a very large pressure drop through the ¼-in. line, and this pressure drop is causing a large part of the liquid Refrigerant-12 to vaporize ahead of the expansion valve. It is difficult to see how with a ¼-in. liquid line, the blower coil could be getting enough Refrigerant-12.

In your letter you mention that the sight-glass shows solid liquid, but you did not mention where the sight glass is located. If it is near the receiver service valve (where it should be as a matter of safety), the sight glass could show all liquid and still the expansion valve and blower coil could be starved.

You also mention that you get liquid at the valve (presumably the expansion valve). You probably determined this by cracking the unit on the inlet of the valve and got liquid. You could do this, but you probably got gas, too.

The fact that the blower coil was all frosted would seem to show that the blower coil is getting enough Refrigerant-12, but this is not necessarily true. Much of that frost can be from conduction and not because the entire coil is fully active.

Try the frost on the outlet coil with a wetted finger. If the coil is really fully active, your finger will tend to stick to the coil. If not, your warm finger will probably melt the light frost off.

MACHINE AND COIL UNBALANCED

Of course, there are other things that can cause short-cycling. One fairly common one is that the evaporator (a blower coil in your case) is much smaller than the machine; or to put it more accurately, the capacity of the blower coil in B.t.u. per hour is much less than that of the condensing unit.

In your case, the condensing unit has a capacity of about 14,000 B.t.u. per hour at a suction pressure of 24½ p.s.i.g. corresponding to an evaporator temperature of 25°. If this is a walk-in cooler being operated at around 35 to 45°, the average temperature of the coil should be about 25°, and the corresponding suction pressure about 24 p.s.i.g., while the compressor is running.

If the blower coil is undersized in comparison to the machine, the suction pressure of the compressor will have to drop down to reduce the capacity of the condensing unit to that of the evaporator.

It could well be that the blower coil is the correct size or capacity for the cooler, but that the condensing unit is too large. The capacity of the blower coil in B.t.u. per hour, should be about one half greater than the total heat load on the cooler in B.t.u. per hour.

If the blower coil capacity is correct but is considerably less (say, more than 20% less) than that of the condensing unit, then the remedy is to reduce the capacity of the condensing unit to match it. This can often be done by using a smaller motor pulley in order to raise the average suction pressure to about 24 p.s.i.g.

If the blower coil is operated at an average temperature of about 25°, and if its capacity and that of the condensing unit are properly matched, then the low-pressure control would be set to cut out at about 20 to 22 p.s.i.g.

If the blower coil is too small, it may have to be operated at say 20° in order for its capacity to match that of the condensing unit. This means a cut-off of about 17 or 18 p.s.i. To prevent short-cycling, the control would have to be reset to cut off at 17 or 18 instead of 20 or 21 p.s.i.g.

Presumably, the blower coil is being operated on a defrosting cycle; that is, to defrost itself between each running cycle. To get a clean defrost, the pressure control would have to be set to cut in at about 35 p.s.i.g., whether the cut out is at 21 or 17 lbs.

That is, the differential of the control setting must be widened from about 14 p.s.i.g. (35 — 21) to 18 p.s.i.g. (37 — 17).

NOT ENOUGH AIR THROUGH COIL

The blower coil may have been originally selected properly; that it, its normal capacity may have been the same as that of the condensing unit (both based on a 25° average evaporator temperature).

However, the capacity of the coil may have been reduced by not getting enough air through the coil. Perhaps the fins are blocked with ice, or even lint or dirt.

Perhaps someone exchanged the blower fan for a smaller one, or the fan blades have been bent flatter, or the fan motor is running too slow, due to low voltage.

It could be, too, that food or other products are blocking air circulation through the blower coil. Anything that reduces the amount of air through the blower coil reduces its capacity, and at the same time, reduces coil temperature and suction pressure, and contributes to short cycling.

But to return to the liquid line. Your first step should be to replace the ¼-in. tubing with one at least ½-in. o.d.

You mentioned a "1½-hp." drier, which would seem to indicate that it was a reasonably large one that probably has inlet and outlet fittings of at least ⅝ in. (but should really be larger).

Another condition that could have a similar effect to an undersized liquid line, is one with a long vertical rise. A rise of every foot causes a pressure drop of a little over ½ p.s.i., (Refrigerant-12) so a rise of 20 ft. would cause a pressure drop due to "static head" of about 11 p.s.i. and which would add to and further aggravate the effects of other causes of pressure drop in the liquid line, and thus reduce the liquid flow to the expansion valve and blower coil.

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RACCA To Step-Up Activity--

(Continued from Page 1, Col. 5)

Allentown, Pa.; Erwin Geiger, Geiger Refrigeration & Air Conditioning Corp., Irvington, N. J.; Walter McCarty, McCarty Brothers Equipment Corp., River Forest, Ill.; Harvey O. Miller, Murphy & Miller, Inc., Chicago; and W. F. Peine, Indiana Weathermakers, Indianapolis.

Resolution Praises Kromer

Ray Kromer, long-time executive vice president of RACCA and one of the founders of the association when he was in the contracting business, has resigned to return to private business.

The directors passed a resolution praising his activities in developing RACCA into a major industry association over the period of a few short years.

Assistant General President John J. McCartin of the UA also praised Kromer, without whose efforts, he pointed out, The Joint Program and Training Committee of the UA would probably not have come into being.

The RACCA board offered the following resolution:

"Be It Resolved that the directors express their feeling of regret at losing the services of Ray Kromer. We feel that the present success of this association is a direct result of Ray Kromer's ability at handling all phases of organization work, including that work necessary at a national level and also the ability to assist in the formation of associations at the local level. We wish Ray Kromer success and prosperity in his new endeavors."

Howard Kearns Named

Howard Kearns of Washington, D. C. was appointed managing director of RACCA, with Henry Ely as western representative in Los Angeles.

Kearns has been affiliated with an association in the insulation field and probably will make his headquarters in Washington. Ely is executive secretary of the Refrigeration & Air Conditioning Contractors Association of Southern California.

RACCA's trade relation committee activities with the ARI were termed by President Walling as probably the association's most significant activity of the past year, and Chairman George Howe's report described the significant areas which have been probed. These include:

1. Investigations to find methods to stop the trend now existing whereby contractors are trying to exist by selling labor only.

2. An effort by contractors to achieve elimination of the five-year warranty on compressors, and development of a publicity and educational campaign directed to this end.

3. Mutual assistance in the matter of cutting down the number of returns of sealed hermetic units through better field installation practice. It was reported by ARI that 80% of the hermetic units returned under warranty had moisture, dirt, and scale in them. The contractors asked for the setting up of a standard procedure for installation, and cancellation of warranties for those not following this.

4. Contractor assistance for the manufacturer in setting up quotas for coming year's production. RACCA has been working on this by collecting figures and estimates from its local associations.

UA Plans No Separate Refrigeration Branch

In the matter of labor relations, RACCA learned the UA has made provision in its constitution for a refrigeration fitters' division in its pipefitting branch, and it is supporting a program for training apprentices in refrigeration skills.

But it has no intention, now or in the immediate future, of setting up a *separate branch* for the refrigeration and air conditioning trade, or shortening up and "specializing" its 5-year pipefitter apprentice training program (in which the refrigeration training is included) to turn out mechanics trained only in refrigeration work.

That was the heart of a talk given by UA's McCartin.

A big part of the union's membership gain in the past couple of years has apparently come through the activity in the air conditioning and refrigeration field, McCartin declared. Since the union made provision for them, 238 refrigeration divisions (separate locals) have been created. Also, the U. S. has been divided into four regions with a special UA organizer for the refrigeration divisions in each region, under the general direction of Joseph Monahan.

However, the UA has been under considerable pressure to establish a separate *branch* for

(Concluded on Back Page, Col. 1)

Servicing Automobile Air Conditioners

(Vol. 3)

BY C. DALE MERICLE

This is the second in the new series of articles on automobile air conditioners which has been prepared to enable the experienced refrigeration serviceman to cash in on this rapidly growing market.

New makes not previously discussed will be described in detail. Most of the series, however, will be devoted to 1958 models of the many makes of units that have already been discussed in the earlier articles. Data on these 1958 models will be limited to the changes made over preceding models.

It will be advisable, therefore, to refer to the previous articles, which are also now available in two handy manuals—Vols. 1 and 2 "Servicing Automobile Air Conditioners."

CHEVROLET (2)

Chevrolet Motor Div.
General Motors Corp.
Detroit 2, Mich.

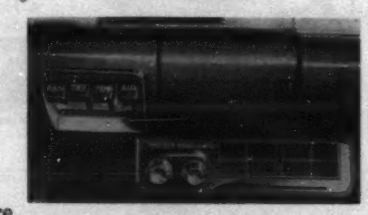

FIG. 8—Controls employed on 1958 Chevrolet "Deluxe" air conditioners.

Controls

Seven controls (Fig. 8) are provided to regulate cooling and heating with the 1958 Deluxe system:

(1) Fan control regulates blower speed for both heating and cooling; (2) Defrost lever permits defrosting windshield; (3) Air lever permits choice of 100% outside air or 70% recirculated and 30% outside air; (4) Temperature lever controls amount of heating; (5) Fast Idle knob speeds engine operation when car is stopped; (6) Nozzle Outlet lever directs air flow through floor duct or outlets on dash; (7) Cold lever engages magnetic clutch and regulates cooling temperature by setting of hot gas by-pass valve.

Hot gas by-pass valve permits hot discharge gas from compressor to enter suction line at evaporator outlet. It is adjusted to keep evaporator pressure from dropping below 29.5 p.s.i.g. to prevent icing of evaporator coil.

A cable runs from lever on by-pass valve to control lever to permit car occupants to raise or lower by-pass setting of valve and thus control temperature.

Cool-Pack system, which is entirely separate from heater, has only two controls (Fig. 3). Lever on top left engages clutch and provides three-speed control of fan mounted on back of evaporator assembly. Lever on top right is connected to hot gas by-pass valve to regulate temperature. Coldest setting is at extreme right.

Wiring

Wiring diagram of 1958 Deluxe system is shown in Fig. 9. The 1958 Cool-Pack electrical circuit is shown in Fig. 10.

Note that a relay is provided in both systems so that when car lights are on, blower can be operated only at low or medium speeds, not high speed.

With the Cool-Pack system the heater blower can be operated only when the cooling unit blower switch is in "off" position. Also in the Cool-Pack system, turning on the fan switch, rather than the temperature control lever, engages the magnetic clutch.

On cars fitted with the superheat safety switch, the clutch coil circuit is modified slightly for both Deluxe and Cool-Pack system. A 4-amp. fuse is placed in the clutch line. A connection in the clutch coil wire between the fuse and the clutch coil runs through a thermistor to the safety switch. The thermistor provides a time delay so that momentary high superheat conditions will allow the safety switch to close briefly without blowing the fuse and stopping the system. Continued excessive superheat, however, will make the safety switch blow the fuse.

(To Be Continued)

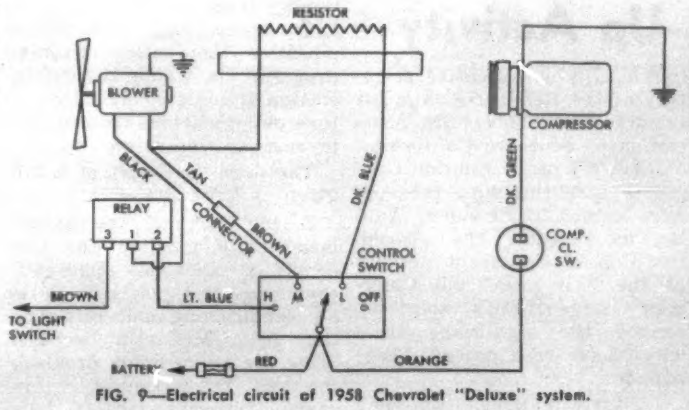

FIG. 9—Electrical circuit of 1958 Chevrolet "Deluxe" system.

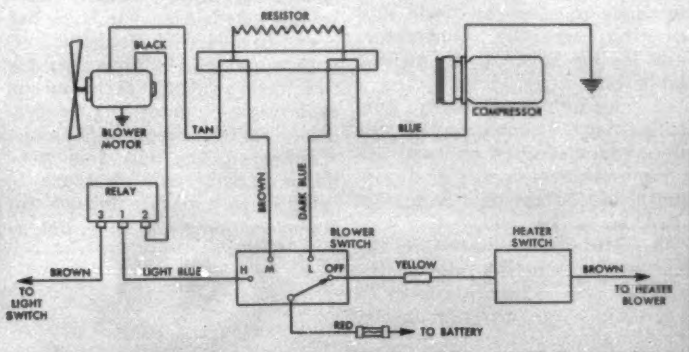

FIG. 10—Wiring of 1958 Chevrolet "Cool-Pack" model.

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SALES ENGINEERS: Acme Industries desires interviews with qualified sales personnel for Pittsburgh. Acme line of new products combined with the others, offers a real challenge to the right man. For interviews call W. K. Parks, regional manager, ACME INDUSTRIES at the Fort Pitt Hotel, Pittsburgh, October 21, 22 and 23.

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MANUFACTURERS' AGENTS wanted to set up dealers for central air conditioning equipment, and assemblers for ventilating equipment—residential and commercial. Specify desired territory. Call or write—WHIRLWIND MFG. CO.—G. W. Duke—3520 Clinton Drive, Houston, Texas.

AIR CONDITIONING sales—Immediate opening for man with minimum five years experience packaged equipment up to 50 tons. Some dealer and distributor sales experience necessary. For international sales department. Headquarters New York area with up to 50% foreign travel after one year training. Knowledge of foreign language helpful. Send complete resume to WORTHINGTON CORPORATION, Harrison, New Jersey, Attention: T. J. Burde.

FIELD SERVICE engineer wanted for the eastern part of the United States. Age under 40. Position pays salary and expenses, provides insurance, hospitalization, and vacation with pay. Applicant must be free to travel in a limited territory. Good personality, 10 years of commercial installation and service experience is required, including working knowledge of electricity. Give full details of your background and experience and enclose small professional photograph and telephone number in first letter of application. Give five references. BOX A6103, Air Conditioning & Refrigeration News.

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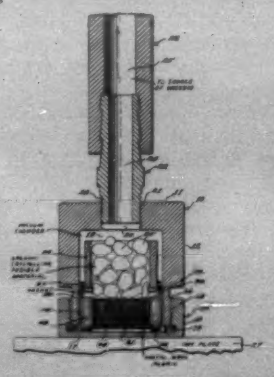
MISCELLANEOUS

AVAILABLE FOR license, low ambient pressure stabilising system, based upon patented device, for air cooled or evaporative condensers, eliminates condenser flooding, no complicated piping, simple field application engineering, unlimited capacity increments. Have your patent attorney write BOX A6120, Air Conditioning & Refrigeration News.

PATENTS

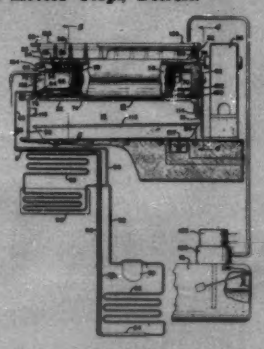
Week of August 12

2,846,329. METHOD OF MAKING A THERMALLY RESPONSIVE ELEMENT. Samuel G. Rakin, Chicago, Ill., assignor to The Dole Valve Co., Chicago.



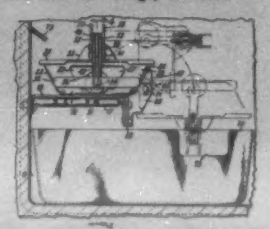
2. A method of making a thermally responsive element which comprises providing a vacuum chamber, confining a predetermined amount of metal wool fabric within a casing, placing an open ended container on said casing in communication with the metal wool fabric therein and sealing the container thereto, placing in said container in juxtaposed relation to the metal wool fabric in said casing a quantity of a solid organic crystalline substance having a fusing point within a predetermined temperature range....

2,846,854. ICE CUBE MAKER. Robert Galin, Dayton, Ohio, assignor to General Motors Corp., Detroit.



4. In an ice maker, a cylindrical evaporator, a cylindrical ice tray support mounted on said cylindrical evaporator and journalled thereon, a liquid heat transfer medium between said evaporator and said tray support, and O ring bearing means between said evaporator and said tray support for confining said heat transfer medium and serving as the sole bearing support for said ice tray support.

2,846,855. ICE BLOCK MAKER. Arthur J. Frei, Dayton, Ohio, assignor to General Motors Corp., Detroit.

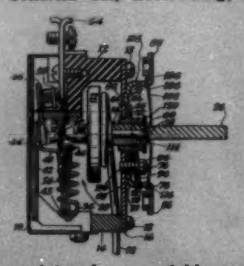


1. In an ice block making apparatus, the combination of a unitary freezing device comprising a substantially non-distortable elongated metal tray, a grid locked in said tray against detachment therefrom including a plurality of spaced apart rigid walls inclined with respect to the vertical and unattached to but loosely anchored in said tray for tilting movement relative thereto and a shiftable actuating member for said walls. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

2,846,983. THERMOSTAT ADJUSTING DEVICES. Victor Weber, Greensburg, Pa., assignor to Robertshaw-Fulton Controls Co., Greensburg, Pa.



1. A regulator for a variable condition, comprising a casing having an apertured wall, control means movable between controlling positions in said casing, condition responsive means operatively associated with said control means for movement thereof in response to variations in a variable condition. . . .

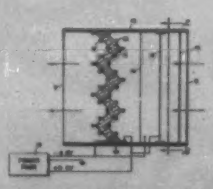
2,846,984. TEMPERATURE RESPONSIVE DEVICE. James U. Daly, Latrobe, Pa., assignor to Robertshaw-Fulton Controls Co., Greensburg, Pa.

1. In a thermally responsive control device having an expansible and contractible element, a capillary tube and a bulb containing a temperature sensitive fluid, the bulb being constructed of layers of metal of different coefficients of expansion autogenously joined to form a tubular member of substantially circular cross-section interrupted by a re-entrant portion which defines by its outer wall a longitudinal groove extending substantially the entire length of said member. . . .

2,847,834. DUCT CONSTRUCTION. Russell F. Swett, Longmeadow, Mass., assignor to Duo-Pac, Inc., East Longmeadow, Mass.

1. Duct construction comprising an elongated unitary inner duct component and an elongated unitary outer connector each formed from sheet metal and being rectangular in cross section to have opposite and adjacent walls, said inner duct component having adjacent longitudinal edges of adjacent walls joined as a seam interiorly and extending longitudinally thereof. . . .

2,847,083. ELECTROSTATIC PRECIPITATORS. William J. Roos, Sharon, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.

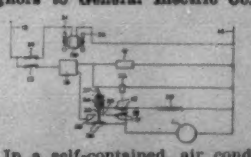


1. An electrostatic precipitator comprising an air guiding enclosure having an open air inlet and an open air outlet, a mat of conductive filaments extending crosswise said enclosure between said inlet and outlet. . . .

2,847,067. DUST COLLECTORS. John Cunningham Johnson, Belfast, Northern Ireland, assignor, by mesne assignments, to American Radiator & Standard Sanitary Corp., New York.

A dust separator and collector comprising a tubular member through which dust-laden air can be passed, vanes mounted in the inlet end of said tubular member to impart vortical motion to such dust-laden air. . . .

2,847,190. AIR CONDITIONING APPARATUS HAVING AUTOMATIC DEFROST. John P. Slattery, Erie, and Robert J. Lehnen, Wesleyville, Pa., assignors to General Electric Co.



1. In a self-contained, air conditioning unit for heating and cooling an enclosure, a reversible cycle refrigeration system having a pair of interconnected heat exchangers one inside and one outside said enclosure. . . .

(To Be Continued)

RACCA Convention Activities--

(Concluded from Page 25, Col. 3)

the refrigeration and air conditioning trade, and to offer a specialized apprentice training course in this trade alone, over a period of time shorter than the normal 5-year training.

This the UA won't do, because the membership has made it known that it wants at present only the four branches—plumbing, steamfitting and/or pipefitting, sprinkler fitting, and lead burning.

"We won't break the craft into 57 varieties," is the way McCartin put it.

Training Designed To Protect Apprentice

So far as apprentice training is concerned, for the apprentice who is headed towards refrigeration work, the UA has him work and train for 3 of his 5 years in the field, but in the other two years it wants him to learn about general pipefitting and steamfitting work. McCartin says this is to protect the interest of the individual, and of the union.

The locals must have an equal voice in any type of a joint apprentice training program, because the type of training that is given has an effect on the job opportunity for the individual worker.

The UA cannot get into "association politics," said McCartin, and openly urge its men to deal with any one association, or refuse to furnish men to contractors who will sign union agreements but who are not association members.

In addressing the RACCA group, President Rhoades of NAPC recalled that at the NAPC national convention, RACCA President Charles Walling had said that there were three principal areas where common interests dictated that the associations should work together—as employers, as subcontractors, as businessmen.

Attendance at the annual conventions of members of these associated groups was one indication that this was being done, another is in the functioning of the Joint Industry Program Committee on labor matters.

Several meetings of this committee have been held, the latest being just before the opening of the RACCA convention. Leading subject on the agenda at all three of these meetings was the manner of approaching the problem created by the recent decision of the NLRB on the subject of hiring procedures.

Hiring Practices Report Due

A report of this committee on recommended hiring practices which would be in compliance with recent NLRB decisions will probably be issued within the next 10 days.

Rhoades also invited the RACCA group and all in the air conditioning and refrigeration industry to attend the annual convention of the NAPC June 1-4 in Miami Beach, and the attendant National Plumbing-Heating-Cooling exposition to be held May 31 to June 3 in the same building as the convention—the new air conditioned Miami Beach Exhibition Hall. Rhoades said more emphasis would be placed on air conditioning at the 1959 show.

Methods and problems of the RACCA members and members of the Mechanical Contractors Association of America are similar—only the scope of operations may be different, declared Horace E. Wetzell in his short address to the group.

He entered a plea that members of both groups get together and become better acquainted, with a view towards achieving a joint solution of the problems involved.

Gilbreath Speaks for ARI

Representing the ARI, John Gilbreath outlined three specific areas in which he said that a contractor organization such as RACCA can be of great assistance to manufacturers, and to the benefit of the industry:

1. In forecasting the kind, and the amount, of various types of equipment that the market will demand.

2. Through the establishment of criteria for good installation practice.

3. Through the promulgation, and promoting of rating standards, and certification of ratings. Manufacturers are setting up rating standards, but the demand for their application in the field must come from the contractor.

In an open discussion of the workings of The Joint Program and Training Committee of the UA and RACCA, there were many interesting points brought to the fore. However, a couple of them brought some new concepts into focus.

Relating his experiences in getting a setup in eastern Pennsylvania for refrigeration and air conditioning contractors to bargain with 13 local unions, Frank Le Grande, Fullerton, Pa. contractor, said that without the help of national RACCA and UA officials, he did not think this would have been possible—primarily because of the opposition of the local unions to the move.

Le Grande described the benefits and problems of achieving the union agreement as follows:

Benefits are in having a stabilized work agreement with the labor force, contract terms that permit competition on a fair basis in the residential and commercial fields as well as in larger jobs, and also in service work, and freedom of movement for card-carrying members throughout the general area.

Problems are mainly those of educating the journeymen that such agreements with refrigeration and air conditioning contractors are to their benefit, and will provide more work through future years.

How joint activity on the local level has produced some benefits was described by Tom Hambly, Denver business agent.

Through the holding of regularly scheduled (and the regularity of the schedule is important, it was pointed out) monthly committee meetings, the union and the contractors have become better acquainted, and have been working on mutual problems for mutual benefit.

For example, the union has become sympathetic with the matter of having good public relations at the consumer level, and is instructing its members to give brief but factful and courteous explanations of the repair work done on refrigeration and air conditioning equipment.

It is also participating in joint training by having its apprentices attend a Refrigeration Service Engineers Society educational program class one night a week, in addition to attending the pipefitting class.